A Case Study of Professional Learning Communities in K-12 Music Education

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Abstract

Music education scholars have questioned the effectiveness of isolated workshop and conference experiences on improving music teacher practices in the classroom. A model of professional development that potentially addresses these concerns is the professional learning community (PLC). In previous investigations of music teacher PLCs, the researchers functioned as both investigator and facilitator of the PLC. Since the PLC model was designed to be led by the participant members rather than by outside experts, the intention of this study was to investigate three middle school band teachers' experiences participating in an autonomous PLC. The purpose of this instrumental case study was to examine how PLC participation affected the music teachers and their classroom practices. Data collected in this investigation included multiple interviews with each of the three teacher participants, observations of their PLC meetings, observations of their classrooms, and collection of artifacts related to their PLC. The three themes that emerged from this study were: (a) the middle school band PLC meeting conversations focused on, "What's the biggest fire?" (b) the middle school band PLC was a balkanized community within the Loon Lake school district, and (c) participants' values and curriculum were largely aligned. Evidence collected in this investigation suggested that the teachers thought participation in the PLC was meaningful and had led to the creation and improvement of assessments and curriculum used in the Loon Lake middle school band program. Though the PLC experience was rewarding to the participants, this study revealed several challenges encountered by the autonomous PLCs in the field. Further research may help clarify how an autonomous music teacher PLC can maintain a

focus on students' music learning, deprivatize teaching practices, and avoid stagnating conversations about teaching practices.

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CHAPTER 1

INTRODUCTION

Recent education policy reforms such as the 2001 No Child Left Behind Act and 2009 Race to the Top program have emphasized teacher effectiveness and accountability as a means of raising student achievement (Darling-Hammond, 2010; Lewis & Young, 2013). In these efforts to improve teacher quality, professional development has been identified as crucial for promoting best teaching practices (Barrett, 2006; Borko, Jacobs, & Koellner, 2010; Cohen & Hill, 2000; Conway & Edgar, 2014; Stanley, 2011; Wei, Darling-Hammond, & Adamson, 2010). Efforts to examine effective forms of professional development in subjects such as reading, math, and science have generated a significant body of evidence identifying best practices in the general education literature (Ball & Cohen, 1999; Desimone, Porter, Garet, Yoon, & Birman, 2002; Garet, Porter, Desimone, Birman, & Yoon, 2001; Penuel, Fishman, Yamaguchi, & Gallagher, 2007; Vescio, Ross, & Adams; 2008).

Within the field of music education, there is a growing body of research on professional development practices of K-12 music teachers (Barrett, 2006; Conway, 2007; Conway & Edgar, 2014; Hookey, 2002; Stanley, Snell, & Edgar, 2014). This scholarship suggests that professional development experiences and supports for practicing music teachers are inconsistent, and music teachers often rely on isolated workshop and conference experiences for meaningful professional as opposed to sustained activities. (Barrett, 2006; Bauer, 2007; Burkett, 2011; Conway, 2003; 2015; Gallo, 2015). Though there have been several studies on music teachers' preferences and

perceptions of professional development, investigations of the impacts of professional development activities on classroom practices have been notably few (Conway & Edgar, 2014; Gallo, 2015).

One of the increasingly popular models championed as an effective form of professional development is the professional learning community (PLC), a collaborative group of teachers focused on teacher development as a means of improving student learning (Darling-Hammond, Wei, Andree, Richardson, & Orphanos, 2009; DuFour, DuFour, & Eaker, 2008; Stanley, 2011; Vescio et al., 2008). These communities can embody many characteristics linked to effective professional development practices, such as active participation, focus on subject area content, sustained and continuous engagement, and relevance to teachers' own classroom experiences (Ball & Cohen, 1999; DuFour et al., 2008; Stanley, 2011; Stanley et al., 2014; Vescio et al., 2008). Despite their positive attributes, collaborative models have not been as commonplace as other forms of professional development to music educators, such as workshops and conferences (Bauer, 2007; Bush, 2007; Conway & Edgar, 2014). This may be because district or school-based professional development opportunities are viewed by music teachers as having limited applicability to their classrooms (Bush, 2007; Gallo, 2015). Research in music education supports the idea that music teachers find professional development opportunities specific to music teaching more useful than other forms of professional development (Conway & Edgar, 2014; Gallo, 2015).

For music teachers, participation in music-specific PLCs can provide opportunities to improve content and pedagogical knowledge (Bell-Robertson, 2014;

Gruenhagen, 2007; Kastner, 2014; Sindberg, 2016; Stanley, 2012). Though these studies have found evidence that PLCs can provide meaningful professional development to teachers, the primary investigator also served as the PLC facilitator in all of these studies. As the PLC model was intended to be self-directed by the participating teachers (DuFour and Eaker, 1998; DuFour et al., 2008), there is a current gap in literature on how participation in self-directed, or autonomous, PLCs affect music teachers and their practices.

Without external support from a music education specialist, there is a question of whether the organization and expectations of school-sponsored PLCs provide a meaningful professional development experience for music teachers. Researchers such as Conway (2008), Friedrichs (2001), and Hesterman (2011) found that music teachers often reported site-based professional development experiences to be less valuable than other forms of professional development. In these studies, teachers indicated that site-based professional development experiences are often of questionable applicability into their classrooms. As Battersby and Verdi (2015) commented, "School administrators often marginalize the arts when designing professional development activities. Music educators are often assigned to professional development groups that are tailored to teachers of other subjects" (Battersby & Verdi, 2015, p. 26). Even DuFour et al. (2008) commented that specialist teachers, such as teachers of art, music, and physical education, can incorporate goals and curricular content of general classroom PLCs into their own classrooms and curriculums. Given that music teachers prefer professional development experiences to be relevant to the teaching of music (Bauer, 2007; Friedrichs, 2001;

Hesterman, 2011), there may be differences in expectations between administrators and music teachers about what meaningful PLC participation entails.

In Minnesota, all public school teachers were mandated by the State Department of Education to participate in school-based PLCs from the 2011-2012 to 2014-2015 academic years (Johnson, 2016). Even though PLCs are no longer required, Johnson found that a majority of school districts have kept using PLCs as a form of professional development. These PLCs were largely organized at the local level, and school districts took a variety of approaches in setting up these autonomous professional communities. Though autonomous PLCs are widespread in Minnesota, the ways in which these autonomous PLCs affect music teachers and their classroom practices has yet to be investigated.

In this case study, I investigated the ways in which participation in an autonomous PLC affected music teachers and their classroom practices. This chapter begins with a statement of the purpose and presentation of the central research questions. Next, I present a review of literature related to the inquiry. This is followed by a description of the research methods used in the study, including participant selection, data collection, data analysis, and the rationale for choosing a multiple case study design.

Purpose

Research evidence suggests prolonged professional development activities are more effective at changing teaching practices than isolated workshop experiences (Darling-Hammond et al., 2009; Desimone & Garet, 2015; Garet et al., 2001; Hookey, 2002; Stanley, 2011). As PLCs are often a sustained activity, with participants engaging

in regular discussions with colleagues throughout an entire school year or longer, participation in a PLC may be a beneficial form of professional development for music teachers. Researchers examining individual PLCs of music teachers found participants had mostly positive experiences (Gruenhagen, 2007; Kastner, 2014; Sindberg, 2016; Stanley, 2012), but these investigations did not examine autonomous PLCs organized within school districts. Investigation into autonomous PLCs is needed to better understand their effects on K-12 music teachers and their classroom practices. Identifying the organization and practices of autonomous PLCs that are conducive to promoting quality music education could lead to improved music teacher professional development practices. In addition, identifying challenges practicing K-12 music teachers encounter in PLCs could direct attention of researchers and other stakeholders toward finding solutions to improve professional development practices. *The purpose of this case study was to investigate how involvement in existing autonomous PLCs affects K-12 music teachers and their classroom practices.*

Research Questions

1. What knowledge and/or supports do teachers gain from their PLC experiences?
2. What organizational supports and leadership are in place for these PLCs and how do they relate to teacher and classroom outcomes?
3. How do teachers use knowledge and/or supports from their PLC in their own teaching?

Limitations

The sample for this study was delimited to music teachers within the state of Minnesota. Findings from this investigation are situated within the specific contexts of the participants' PLC, which may not be representative of other autonomous PLCs outside of the sample. In this qualitative inquiry, the collected data and analysis may be limited by biases of both the participants and the researcher.

Definition of Key Terms

There are several terms used in this study for which operational definitions would help clarify their use in the context of this study. These terms and their definitions appear below:

Professional development: An activity or interaction intended to promote a personal process of professional change (Hookey, 2002, p. 888).

Professional learning community (PLC): A collaborative community of individuals with shared values and a consistent focus on student learning (adopted from Vescio et al., 2008).

*Autonomous professional learning community***:** A PLC initiated, supported, and/or directed within a single school or school district with membership limited to teachers within that school or district.

Background

Research on teacher professional development. Scholarship on professional development in general education has established a potential for professional development experiences to change and improve teacher practices (Ball & Cohen, 1999;

Borko et al., 2010; Cohen & Hill, 2000; Conway & Edgar, 2014; Desimone et al., 2002; Garet et al., 2001; Penuel et al., 2007; Sparks & Hirsh, 1997). Much of the research done on professional development has attempted to identify best practices that promote growth in teachers, though some scholars have examined the impacts of professional development on student learning (Desimone et al., 2002; Gersten, Dimino, Jayanthi, Kim, & Santoro, 2010; Penuel, Gallagher, & Moorthy, 2011).

Using data from a national survey of 1,027 teachers, Garet et al. (2001) identified six primary factors of effective professional development. These factors included: (a) the organization of activities; (b) duration of activities, both hours spent and time span; (c) collaborative participation—the extent of participation by teachers from the same school, department, or grade level; (d) active learning (e.g. analyzing student work, observing peer teaching, mentoring); (e) coherence, the alignment of teacher's goals to school/state standards; and (f) a focus on content knowledge. In a follow-up study, Desimone et al. (2002) conducted a 3-year longitudinal study to investigate relationships between professional development traits and educators' adoptions of new practices. They found that professional development based in collaborative learning activities, collective participation of faculty at the school level, and active learning practices were linked to significant changes in teaching practice. Other researchers have corroborated these findings while also noting the importance for professional development activities to connect with teachers' classroom experiences in order to create meaningful experiences (Ball & Cohen, 1999; Gersten et al., 2010; Richardson, 2003; Van Driel & Berry, 2012; Vescio et al., 2008).

However, as Creemers, Kyriakides, and Antoniou (2012) noted, researchers are divided between conflicting paradigms guiding teachers' professional development. Some scholars argue that professional development should focus on teachers acquiring and developing specific skills and behaviors linked to improved student achievement. Proponents of these competency-based models argue that professional development should be results-oriented, based on curriculum and standards, sustained, and linked to class practices (DuFour & Mattos, 2013; Sparks & Hirsh, 1997). In opposition to competency-based frameworks, scholars such as Craig (2009) and Lieberman and Mace (2010) take issue with the notion that prescribed strategies and sets of knowledge can truly capture the full complexity of teaching. Instead, they promote holistic models for professional development encouraging teachers to critically reflect upon their teaching practices, experiences, and beliefs. From the perspective of Craig (2009), Darling-Hammond et al. (2009), and Lieberman and Mace (2010), professional development is more meaningful when the teachers are given autonomy to guide their own development through self-reflection. Though professional development scholars continue to debate the merits of standardizing research-based practices against promoting self-directed critical reflection of practice, both sides agree on the value of collaborative professional development opportunities for teachers (DuFour & Mattos, 2013; Lieberman & Mace, 2010).

As researchers have emphasized the need for teachers to have a greater voice in school improvement efforts, it is not surprising that collaborative models of teacher professional development have become popular (Berry, Daughtrey, & Wieder, 2009;

Darling-Hammond et al., 2009; Fullan, 2007; Stanley, 2011; Vescio et al., 2008). Such models of professional development can engage teachers within their own teaching contexts, put teachers in a role of active learning, be sustained, and be structured in a way that allows for different groups to specialize in their own content-specific knowledge and pedagogy.

Research on professional learning communities. Though the term PLC is ubiquitous in education research, definitions of PLCs have considerable variance (DuFour & Mattos, 2013). In a multiple case study of school reform efforts, Newmann et al. (1996) developed a description of five characteristics of effective communities of practice: (a) a set of shared values within the group, (b) a consistent focus on student learning, (c) reflective dialogue on curriculum and instruction, (d) a focus on making classroom practices more transparent, and (e) a focus on collaboration. Though Newmann et al. did not use the term PLC, other researchers have used their model to define PLCs (Vescio et al., 2008). In their seminal work *Professional Learning Communities at Work: Best Practices for Enhancing Student Achievement,* DuFour and Eaker (1998) described PLCs as having six characteristics: (a) shared mission, vision, and values; (b) collective inquiry; (c) collaborative teams; (d) action orientation and experimentation; (e) continuous improvement; and (f) results orientation. DuFour (2004) and Eaker et al. (2002) refined their earlier description of PLCs to three core focuses of student learning, teacher collaboration, and results.

While such descriptions are useful for describing what a PLC should do, a group labeled as a PLC may not meet all criteria of a chosen definition. Groups claiming to be

PLCs may merely borrow the label and ignore recommended practices for both PLCs and professional development practices in general (Vescio et al., 2008). DuFour & Mattos (2013) note that PLCs should have teachers collaborating with an explicit focus on student learning, connecting to the school culture, and critically examining the impact of these efforts on the student achievement. Without these characteristics, DuFour and Mattos argue that PLCs will likely do little to impact classroom practices. Other concerns about PLCs were voiced by Little (2003), who warned that PLCs may create divisions in the school community, simply replacing isolated individuals with isolated groups primarily occupied in keeping the status quo.

Despite concerns and inconsistencies, PLCs have proven to be an effective means of professional development. While there are many articles promoting the virtues of PLCs in the education research literature, Vescio et al. (2008) noted that the profession has done relatively little to empirically examine changes in teacher practices and student learning resulting from these professional development experiences. This slim body of literature provides evidence that PLCs meeting the criteria established by Vescio et al. are effective in improving student achievement (Berry, Johnson, and Montgomery, 2005; Hollins, McIntyre, DeBose, Hollins, & Towner, 2004; Philips, 2003; Supovitz, 2002; Vescio et al., 2008). While these findings may offer some support for PLC advocates, it is also worth noting these studies did not examine music as a subject area.

Professional development in music education. Research has indicated that music teachers find music-specific conferences, workshops, and graduate study to be relevant and meaningful, but district provided professional development experiences have

not been as warmly received (Bauer, 2007; Burkett, 2011; Bush, 2007). Hookey (2002) cautioned that short-term professional development opportunities might have little impact on music classroom practices. Several researchers have continued efforts to promote sustained professional development activities shown to be effective in other disciplines (Barrett, 2006; Conway, 2007; Eros, 2011; Stanley, 2011; Stanley et al., 2014). Despite these findings, Conway and Edgar (2014) note that workshops and other isolated activities still represent the most common forms of music-specific professional development experienced by music teachers. While Bauer, Reese, and McAllister (2007) and Junda (1994) found positive impacts in teacher content knowledge from workshop experiences, there have been few investigations into the impacts of professional development experiences on music educators (Conway & Edgar, 2014). Researchers should exercise caution in drawing conclusions about music teacher professional development effectiveness from this limited body of evidence.

A particular concern in music professional development is the support for early career music teachers through the transition into the classroom. Challenges of isolation, exhaustion, classroom management, scheduling, budgeting, equipment management, and curricular decisions faced by the novice music teacher have drawn attention in the profession (Barnes, 2010; Bell-Roberston, 2014; Conway & Zerman, 2004; Krueger, 1996; Roulston, Legette, & Womak, 2005). An additional concern identified by Conway (2001, 2003, 2012, 2015) is that the quality of school mentoring programs for novice music teachers is inconsistent across the field. Furthermore, Stevenson (2005) noted that mentoring programs were not always aligned with the needs of novice teachers. Her

collective case study also discovered that group mentoring experiences were more helpful to novice elementary music teachers than individual mentoring opportunities.

Developing communities of practice as a means of supporting novice music teachers has been recommended in the literature (Bell-Robertson, 2014; 2015; Blair, 2008; Burkett, 2011). Bell-Robertson (2014) found that even an online-only format via a wikispace provided emotional support of a PLC as documented by other researchers. While participants in her study used the online community to vent frustrations, gain assurance, and provide support for each other, there was little discussion on classroom practices. For beginning teachers, this emotional support may even be more important than professional development focused on curriculum and class practices (DeWert, Babinski, & Jones, 2003; Duncan-Howell, 2010; Lieberman & Miller, 2008).

While PLCs address the issues of short-term professional development practices, they are not without their own challenges for music teachers. Stanley (2011) identified the differences and additional difficulties music teachers experience from their colleagues as a potential complication for collaborating with other subject area teachers. The isolation of music teachers poses challenges for teachers looking to form collaborations relevant to their subject area. Music teachers are often the only teacher of their subject area in their school or part of a smaller department within the school community (Sindberg, 2011; 2014; Sindberg & Lipscomb, 2005). This isolation can make finding colleagues and common time to meet difficult. These problems aside, Stanley (2011) noted, "Simply creating a music teacher community does not ensure that it will provide meaningful professional development" (p. 73). Itinerancy, grade levels, ensembles, and

responsibilities assigned to music teachers within a single PLC can present challenges in developing a PLC that provides meaningful professional development.

Professional learning communities of music teachers. Researchers who have investigated PLCs of music educators found participants reporting positive experiences, improvement of teacher knowledge, and emotional support resulting from these experiences (Gruenhagen, 2007; Kastner, 2014; Pelletier, 2013; Sindberg, 2016; Stanley, 2012; Stanley et al., 2014). Of these studies, it is worth noting that only Pelletier (2013) investigated PLCs neither created nor led by the primary investigator.

Gruenhagen (2007) facilitated a monthly PLC meeting as part of an investigation of a PLC meeting. From observations and transcripts of PLC meetings and interviews with five core participants, Gruenhagen found that the trust between participants promoted the generation, implementation, and reflection of lessons and curriculum. Though initial conversations of the PLC were informal, Gruenhagen argued that early story-sharing experiences were fundamental in building a community, and critical examinations of curriculum and activities only happened once members became comfortable in the group. However, several members of the original group of 12 participants would later drop out of the study, and Gruenhagen noted that the remaining five participants in the study were already comfortable talking about their classroom practices at the start of the study.

Using a sample of three elementary music teachers, Stanley (2012) also found that the conversations between PLC members were primarily teacher-centered at the beginning of the study, but shifted towards a more student-centered focus by the end of

the study. The PLC in this case study was specifically designed by the investigator to promote student collaboration in music classes. Stanley found that teacher participants reported their pedagogical knowledge and sense of community were enhanced by their experience.

Two case studies on PLCs in the music education literature examined PLCs focused on implementing a specific pedagogical framework. Kastner (2014) investigated four elementary general and choral music teachers participating in a PLC with the explicit purpose of promoting informal music pedagogy in the classroom. Members of the PLC read and discussed research on informal music practices, and the discussions led to the development and implementation of pedagogical strategies to include informal music learning experiences in their classrooms. Though this study was primarily concerned with the implementation of informal music practices, Kastner found that the participants valued the supportive community of the PLC and reassurances from their peers helped them making changes to their teaching practices.

Working with ensemble music teachers of multiple grade levels, Sindberg (2016) investigated a PLC working to implement the Comprehensive Musicianship Through Performance model (CMP) in their instructional practices over a two-year period. The collaborative culture of the PLC helped participants sustain their efforts and cope with the frustrations and trepidations of implementing the CMP model into their teaching. While participant teachers were eager to incorporate CMP into their practice, the actual process of change was long and uneven.

In contrast to the previous case studies that each examined a single PLC, Pelletier (2013) conducted an investigation to discover the various learning communities that engaged 24 participant elementary general music teachers. The focus of the inquiry was how elementary music teachers viewed the experiences of informal PLCs such as Orff-Schulwerk or Kodály learning communities with regards to their job satisfaction and professional development. Pelletier found that teachers reported improvements in their students' musicality and creativity and their own teaching abilities and musical skills, which provides some evidence that PLC participation improved practice. However, this investigation relied on interviews with each of the participants to gauge their perceptions and did not explore any of these PLCs in-depth.

Summary of literature on PLCs of music teachers. Though these case studies reveal impacts and perceptions of PLC participation in specific contexts, they are limited to observations of PLCs receiving external guidance and expertise. While Sindberg (2016) collected data over a two-year period, Gruenhagen (2007) collected data over a single academic year, both Kastner (2014) and Stanley (2012) collected data over the course of five months. Additionally, in the cases of Gruenhagen (2007), Kastner (2014), and Stanley (2012), the PLCs examined were newly formed at the start of the investigations. Collectively these PLCs may have still been establishing norms, and may not be representative of established PLCs. This body of evidence suggests that participants take time to acclimate to each other and become comfortable having personal and critical discussions of what goes on in their classroom. Further research into intact music teacher PLCs may reveal if autonomous PLCs are as productive as those facilitated

by outside experts. Though they may not benefit from outside expertise, it may be that autonomous PLCs provide music educators worthwhile professional development experiences. If independent site-based PLCs are similar to the other PLCs examined in the music education research, the moral support and sustained focus documented in PLCs may prove to effectively transform teaching practices.

Method

A qualitative research method was chosen for this investigation for three reasons. First, qualitative research methods better align with the guiding research questions. The purpose of this investigation was not to determine cause and effect relationships between PLCs, teachers, and classroom practices. Rather, the goal of this study was to understand how PLCs relate to music teachers and their classroom practices. Secondly, qualitative approaches are useful for investigating complex, contextualized real-world situations (Creswell, 2013). A third rationale was that the relationship between PLCs, music teachers, and classroom practices in music education at present remains a relatively unexplored field. Stanley et al. (2014) identified seven elements characterizing effective collaboration for music teachers, but the ways in which those elements may be realized within the real-world contexts is still being understood. While researchers in general education have created instruments to gauge the effectiveness of professional development experiences (Desimone et al., 2002; Gersten et al., 2010; Penuel, Gallagher, & Moorth, 2011), the unique aspects of music teaching and learning may not make such instruments effective at assessing music teacher professional development. For these reasons a qualitative inquiry is well-suited to address the ambiguity inherent to the topic.

Because the relationships and effects of PLC experiences on actual teachers and classroom practices are loosely identified and explained, this study may provide some additional clarification that could inform the design of future quantitative investigations.

This study employed an instrumental case study design, as case study designs are well suited for the holistic study of a complex real-life phenomenon (Creswell, 2013; Merriam, 2009; Stake, 2005; Yin, 2009). Case study design also allow for the investigation of potential variables and influences that arise during the course of investigation (Creswell, 2013; Merriam, 2009). The defining feature of case study research is the delimitation to the principal object or phenomenon being studied (Stake, 2005; Merriam, 2009). This bounded system is the case being investigated. In their review of the literature on music education professional development, Conway and Edgar (2014) noted that case study designs have been a preferred method to examine perceptions and effects of professional development opportunities. Common professional development opportunities afforded to music teachers, such as workshops, seminars, graduate courses, and collaborative communities, create relatively clear boundaries to establish a case (Conway & Edgar, 2014; Hookey, 2002). For this study, the case was defined as the single school-situated PLC of music teachers.

Participant selection. Selection of participants was purposeful with the use of criteria to assist in selection. These criteria include that the participant PLC must have been in place for at least one year (to allow for group norms to be established), and must be autonomous, having no outside guidance or leadership from a non-PLC member teacher. Further selection criteria included the ability of the researcher to obtain

participation and consent from all teachers in the PLC to conduct interviews with each of the music teacher participants. Additionally, selection was based on the ability of the investigator to observe the PLC during its regular meetings, and observe the teaching of at least one PLC member.

Data collection. All members of the selected PLC participated in the study. These individuals were interviewed three times over the course of the study. All interviews were audio-recorded and transcribed by the interviewer. In addition, the researcher conducted three observations of the regular meetings of the participants' PLC. These PLC meetings were also audio-recorded, though audio-recordings were incomplete due to interruptions from non-participants in the study and participants request for notes-only data collection during the discussion of certain topics, such as issues specific to students, parents, or administrators not involved in the study. Observations of each participant's classroom teaching were also conducted. The length of data collection for this study was just over three months, from November of 2016 to February of 2017. All field interviews and observations were conducted based on the availability schedule of participants.

Multiple types of data were collected over the course of this investigation, including interview transcripts, observation field notes, and additional artifacts. Artifacts included teacher-created classroom materials, curriculum, and assessments collected from participants and copied for analysis. Additional artifacts included PLC meeting minutes and other documents of the PLC's work from previous years. The variety of data sources

used for this investigation helped provide means of triangulation in the analysis and the final write-up.

As qualitative research aims to provide thick descriptions, field notes of observations and interviews described the physical settings, individuals, dialogues, activities, and events. Field notes also detailed more subtle factors such as participant dress, vocal inflection, nonverbal cues, and what does not happen, which Merriam (2009) noted is equally important as other factors, "especially if it ought to have happened" (p. 121). Because qualitative research situates the researcher within the field, field notes also describe how I interacted with participants and affected the scene being observed. Complementing the descriptive aspect of field notes were the researcher's own reflections, allowing for the documentation of in-the-moment analyses, thoughts, and reactions (Merriam, 2009).

Data analysis. During this investigation, data analysis was concurrent with data collection (Bogdan & Biklin, 2007; Creswell, 2013; Merriam, 2009). Interviews and PLC meeting observations were transcribed by the researcher and interviews were member-checked with participants. Analytic memos, which are useful for providing additional analysis, clarifying thinking, and keeping the investigations focus on the research question were used (Creswell, 2013; Saldaña, 2016). As I conducted data collection and analysis, I continued to examine the literature to aid my analysis and to connect my findings to current literature as my investigation unfolded (Bogdan & Biklin, 2007; Creswell, 2013).

Data collected through interviews, observations, and artifacts was coded using methods described by Saldaña (2016). Saldaña recommended selecting initial codes to align with the research question, which in this investigation was, "*How does involvement in an existing autonomous PLCs affect K-12 music teachers and their classroom practices*?" For this purpose, descriptive, in vivo, emotion, value, and evaluation codes were used to initially code the data. Through the iterative coding process, initial codes were modified and new codes created as additional data was combined in the analysis. After all the data was initially coded and recoded, I used a second cycle pattern coding process as described by Saldaña in which I continued to examine data a group similar codes together into larger categories. From this iterative coding process the themes of this investigation were developed.

To establish credibility and dependability for the study, several steps were taken. First, multiple interviews and observations in the field were conducted to help situate the researcher in the field. Second, the researcher used regular members checks with participants to guard against misinterpretations. Third, data was triangulated between the multiple participant interviews, observations, and artifacts. In order to account for researcher bias, I included a discussion of my own experience in PLCs to provide additional transparency for the reader (Creswell, 2013). In addition, an external auditor was used in the data analysis to serve as a check of the coding process and development of themes.

Overview of the Study

Chapter Two provides a detailed review of the literature on topics relevant to this investigation of an autonomous music teacher PLC. The chapter is divided into three parts. The first part presents research on professional development of K-12 educators. Next is a review of literature on PLCs, including the development of PLCs, descriptions of PLCs, and research on the impacts of PLCs on teachers and practices. The third part of Chapter Two discusses research specific to the professional development of music teachers. This section begins with a review of research on music teacher professional development perceptions and preferences, is followed by a discussion of research on the impacts of professional development experiences such as graduate studies and workshops, and will conclude with a presentation of studies on PLCs of music teachers.

Chapter Three contains a description of the qualitative research methods used to conduct this study. The rationale for the research methods used in this study, the data collection procedures, and the data analysis process are presented within this chapter. In addition, this chapter includes a description of participants and sites investigated in this study.

Chapter Four presents the findings and analysis of this investigation. This chapter begins with a vignette of the PLC case, followed by a presentation of the major themes of the analysis.

Chapter Five presents a discussion on how the findings of this investigation relate to previous research and the research questions. This chapter starts with an overview of the project, followed by a discussion of findings organized by the three research

subquestions. This is followed by discourse about finding relating to the main research question, and concludes with a discussion of implications for future research.

CHAPTER 2

REVIEW OF THE LITERATURE

Introduction

In this chapter, literature on professional development and professional learning communities is discussed within the field of general K-12 education and music education in particular. First, I present a review of literature on professional development in education. Within this section I describe the role professional development plays in improving teaching practices. Following this overview, I discuss a theoretical model for professional development developed by Garet et al. (2001), who examined impacts of professional development on teachers in a nationally representative sample. After discussing this model, I present several critiques of that model from other researchers. Next, I provide a review of literature that has examined the impacts of specific profession development practices on teacher knowledge, teacher practice, and student learning.

The second section of this literature review describes the Professional Learning Community (PLC) as a specific form of professional development. I begin with a review of the historical contexts and background of the development of PLCs as a form of teacher professional development. Within this overview I present the descriptions of PLC by DuFour & Eaker (1998) who are regarded as the primary proponents of the professional development model (Archer, 2012; Carpenter, 2012). Following this is a discussion of findings about the impacts of PLCs on teacher knowledge, practice, and student achievement.

In the third section I describe professional development within music education. This begins with an overview of the concerns of music educators to distinguish the specific needs of music teachers from teachers in general. Because music teachers may face additional challenges such as performing, fundraising, planning trips, and recruiting, Barrett (2006), Bauer (2007), and Stanley (2011) have argued that music teachers have unique professional development needs. After describing some of the professional development challenges specific to music educators, I discuss findings on music teachers' perceptions of professional development from national and regional samples. Next, I review investigations into the effects of professional development experiences on music teachers' knowledge and classroom practices. Finally, I present findings from investigations of PLCs of music educators.

An Overview of Professional Development in Education

> The vision of a better education is complex. Teachers are to help diverse learners become competent and skilled, understand what they are doing, and communicate effectively. Schools are to be connected with their communities, and all students are to succeed in ways they currently do not and never have before in the history of American public education. (Ball & Cohen, 1999, p. 3)

As Ball and Cohen (1999) noted, the expectations for K-12 education in the United States are high. To meet these aims, they argued that professional development is a critical component in translating rhetoric into practice. Ball & Cohen argued that teachers need opportunities to learn more about the subjects and the students they teach

and to reconsider their current practices. They also identified numerous deficiencies in teacher professional development practices in the United States, such as professional development not being treated as a continuing process. Instead, teacher professional development activities frequently consist of individual workshops or classes promoting various theories and practices that may or may not relate to teachers' specific needs. Furthermore, Ball and Cohen argued that a disjointed and uncoordinated approach to professional development would not reliably improve participants' teaching.

Darling-Hammond et al. (2009) echoed the concerns of Ball & Cohen (1999), arguing that while standards-based school reforms like the No Child Left Behind Act and the Race to the Top initiative have identified what students should know and be able to do, teachers have not been given supports they need to improve classroom teaching. Using data from the 2003-2004 Schools and Staffing Survey conducted by the National Center for Education Statistics, Darling-Hammond et al. (2009) examined teachers' self-reported participation in professional development activities. The researchers found that 92% of teachers participated in short-term workshop or conferences for professional development, and 57% of teachers reported having less than 16 hours of professional development a year (pp. 19-20). Furthermore, teachers described having few opportunities to collaborate in professional development and that most of the experiences they had were not useful to their classroom teaching. In analysis of state-level data, Darling-Hammond et al. noted that professional development experiences across the country were highly variable. Across the country, teachers reported significantly

different proportions of their time spent in professional development experiences and varying degrees of support from their school administration.

In their conclusions, Darling-Hammond et al. stated that teachers often did not have access to high quality professional development. They found that the professional development opportunities reported by teachers were often disconnected from other school initiatives and their classroom practices. The amount of time teachers had annually for professional development fell short of the 50-hour benchmark the researchers recommended for realizing improved teacher practice and student learning outcomes. While Darling-Hammond et al. argued that professional development experiences should be collaborative, focused on specific content areas, connected with classroom practices, and connected to other school curriculum, standards, and policies, their investigation found teachers' experiences with professional development often did not meet these criteria.

Within the teaching profession there is a general consensus that professional development is important for both teachers and students (Ball & Cohen, 1999; Darling-Hammond et al., 2009; DuFour et al., 2008; Vescio et al., 2008). Scholars also agree that current professional development practices are typically ineffective and contrary to what research indicates are best practices (Ball & Cohen, 1999; Darling-Hammond et al., 2009; DuFour et al., 2008; Vescio et al., 2008). Despite the consensus on the importance of professional development and shortcomings in contemporary practices in the literature, there is disagreement about how educators, researchers, and policy-makers should best address these issues.

Theoretical Frameworks for Professional Development

A framework for understanding how professional development affects teachers and their students was introduced by Garet et al. (2001). In this seminal study, the research team examined the data from a nationally representative sample of 1,027 teachers who participated in professional development offerings through the Eisenhower Professional Development Program. Controlling for teacher demographic factors such as gender, years of experience, and certification as well as school factors such as socioeconomic status of the student population, Garet et al. conducted an ordinary least squares regression to examine the relationship between various features of professional development activities on teacher knowledge and changes in classroom practice. The researchers developed six variables to describe professional development activities. These were divided into three variables to describe structural features of the activities and three "core feature" variables to describe the content of the activities. To quantify the structural features and core features of professional development activities, Garet et al. used self-reported responses by teachers to Likert-type items to create a variable for each core feature.

The structural features identified in the study included the type of professional development activity, which were categorized as either traditional (e.g. lectures, workshops) or reform (e.g. study groups, mentoring, coaching). Another structural feature was the time spent in professional development activities. A third structural feature, labeled "collective participation," described professional development activities designed specifically for teachers at the same school, department or grade level. The

rationale behind this measure was that teachers with similar students have similar needs and professional development opportunities can allow for the discussion of issues pertinent to the teachers' own classroom experiences.

Along with measures for the structure features of professional development activities, Garet et al. also developed three variables to describe content within professional development activities, which they termed "core features." The first of these was to measure the focus of professional development activities on subject-specific pedagogy and teaching strategies. Second, a variable for active learning opportunities referred to the ability of teachers to observe and be observed teaching, plan classroom implementation, review student work, and write about their professional development work. The third core feature, coherence, described how well professional development activities and goals aligned with school and district curriculum and assessments.

To determine the outcomes of professional development experiences, Garet et al. created two variables: teacher knowledge and teaching practices. Changes in teacher knowledge were measured by using a 5-point scale to gauge the degree to which teachers felt they had learned about various aspects of their teaching of mathematics. Changes in teaching practices were measured by using teachers' self-reported responses to a 3-point scale item on the degree of change they felt professional development activities had on their teaching.

Garet et al. found that all three of the identified core features of professional development of content knowledge, active learning, and coherence had statistically significant relationships to improved teacher knowledge. Coherence was identified as the

most important aspect of professional development, followed by a focus on content knowledge, and active learning was the least important predictor. The three structural features of professional development were found to significantly correlate to each of the three core features. The authors found that improved teacher knowledge was the most significant predictor of change in classroom practices, though coherence and focus on content knowledge were weakly correlated to changes in classroom practice as well. A model of these relationships is presented in Figure 1.

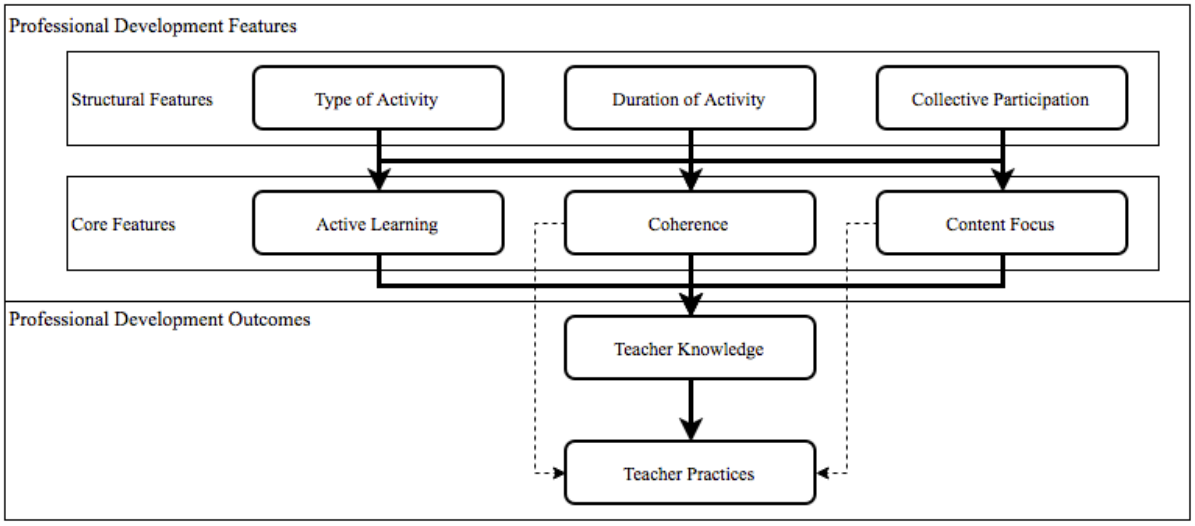

Figure 1. A theoretical model of professional development factors and their relationship to teacher outcomes from Garet et al. (2001).

From these findings, Garet et al. concluded that professional development experiences that focused on content subject matter and pedagogy, provided hands-on learning opportunities, and were integrated with the curricular expectations of the school were more likely to enhance teacher knowledge and change classroom practices. Though this study focused on the development of K-12 math teachers, the findings and method of this investigation served as a template for other investigations into the impacts of

professional development (Desimone et al., 2002; Gersten et al., 2010; Penuel et al., 2007; Wallace, 2009).

Building upon the work of Garet et al. (2001), Desimone et al. (2002), Gersten et al. (2010), and Penuel et al. (2011) further examined ways in which professional development experiences related to teacher knowledge, classroom practices, and student learning outcomes. Gersten et al. (2010), proposed a theoretical model connecting professional development to student learning outcomes (Figure 2). In this model, professional development experiences most directly affect teacher knowledge. Changes in teacher knowledge then directly affect teacher practices, and changes in practice have the strongest effect on student learning.

Figure 2. A theoretical model of the relationship between professional development, teacher knowledge, teacher practice, and student learning from Gersten et al. (2010).

While the research discussed above presents a framework to explain professional development practices, some of the underlying assumptions in the investigations warrant consideration. Professional development activities were categorized and measured by factors including duration of activities, Likert-type scales to determine the degree of collaboration, and check-list items to analyze type of activities. Teacher knowledge was commonly measured through self-reported questionnaire responses. Teacher practices were measured through self-reported Likert-type questions by Garet et al. (2001) and Desimone et al. (2002), and observations of specific classroom activities by Gersten et al.

(2010) and Penuel et al. (2011). In studies by Gersten et al. (2010) and Penuel et al. (2011), the researchers examined student learning by using data collected from pretest and posttest assessments. One limitation with these various measures is that they may not encompass everything that contributes to effective professional development or its impacts. Whether the oversimplification of professional development practices and outcomes is a concern to the profession divides scholars. The following section will present two philosophies towards professional development as described by Creemers et al. (2013).

Philosophical Frameworks of Professional Development

Creemers et al. (2013) argued that current professional development practices and research have been shaped by historical contexts and philosophies of education. In particular, the authors stated that the emphasis on teacher quality in the United States, particularly from 1970s and 1980s, continues to shape the discussion of professional development today. During the 1970s, research into teacher quality began to identify specific traits and behaviors of teachers that were linked to increased student achievement. Creemers et al. argued these findings led to a prevailing view in the field that professional development should concentrate on developing only research-identified teaching skills linked to improved student performance. Labeled "performance-based models," these frameworks reduced teaching into a series of individual teacher behaviors and traits. These teacher behaviors and traits could then be taught to teachers, and would lead to improved student performance. Furthermore, specific factors of professional

development experiences could be identified as effective by research, and this information could inform better professional development practices.

Creemers et al. (2013) claimed that professional development scholars have moved from using performance-based frameworks towards a philosophy of reflective practice,[1] though vestiges of performance-based philosophies linger in the profession. Examples of performance-based philosophies are presented by contemporary scholars such as Darling-Hammond et al. (2009), DuFour (2004), and Hill (2009) who explicitly called for professional development to focus on "what works." The claim that professional development should focus on developing specific habits and should be evaluated according to its impact on student achievement persists. Efforts to identify best practices empirically have reduced professional development to specific practices, behaviors, and test scores in order to identify results on teacher knowledge, classroom practice, and student achievement through regression analysis (Garet et al., 2001; Gersten et al., 2010; Penuel et al., 2007). Though these investigations may increase understanding of how professional development can help teachers and students, the reduction of teacher knowledge, classroom practices, and student achievement to quantifiable measures may not encompass the entirety of best practices for professional development (Creemers et al., 2013; Kennedy, 2016).

In a 2009 meta-analysis, Hill (2009) argued that standardization and review of professional development practices were needed. Hill declared that the system of teacher

[1] Creemers et al. (2013) describe reflective practice as a range of continuous learning practices in which teachers critically consider and analyze their own teaching and how it might be improved (p. 5).

professional development in the United State is "broken," and warned that simply replacing one form of professional development with another does not equate to meaningful change. Using economic frameworks of supply, demand, information and efficiency, Hill promoted the idea that the limited resources of time and funding for teacher professional development should dictate that only proven effective methods be supported. Drawing a comparison to the field of continuing medical education, Hill argued that education needs a form of quality control in professional development offerings. To meet this need, Hill suggested that an accreditation for professional development activities would be one possible mechanism to provide quality control. Additionally, Hill argued that schools should incentivize teachers to attend professional development that have demonstrated results, and that teacher professional development should be tied to teacher evaluation. Hill recommended that teachers who are evaluated to be weak in certain areas should be required to attend professional development to remedy the identified weaknesses. According to Hill, this last practice would be more efficient at improving teacher practices than simply letting teachers attend any session of their choosing (2009).

While Darling-Hammond et al. (2009) and Hill (2009) noted that several professional development practices have been identified as effective in the research literature, the disconnect between research and practice is a concern for the profession. Richardson (2003) argued that this disconnect between research and practice may be due to the individualist culture of teaching in the United States. According to Richardson, teachers are used to having autonomy in their own classrooms, and as a result there is

little coordination between teachers, even those working in the same school. Though Darling-Hammond (2009) and Hill (2009) argued that teachers are not changing their practices, Richardson (2003) argued that teachers are constantly making small changes in their own classrooms on a voluntary basis. Since these changes are made at the discretion of the individual teacher, Richardson stated that professional development opportunities should attempt to provide input and influence the decision-making process of individual teachers.

To this end, Richardson promoted an inquiry-based, or constructivist, approach to professional development. By allowing teachers to rely on their own expertise, Richardson stated that a balance between collective action and individualism may better address the complexities in the field than simple top-down models. Richardson commented that while collective action of all teachers in a school would benefit students, forced collaboration might marginalize some teachers, particularly those who are in the minority. Specific teaching skills or behaviors may not be appropriate for all teaching contexts, and a one-size-fits-all approach may in fact do more harm than good. The benefit of an inquiry-based model of professional development is its flexibility and applicability to a variety of teaching situations.

Kennedy (2016) argued that teachers live in a "noisy" education system, surrounded by multiple and often conflicting messages about what is and is not important in teaching. In her literature review on teacher professional development, Kennedy noted that the complexities of teaching cloud the findings of research into professional development practices. While there may be a consensus of important professional

development design features (e.g. Garet et al., 2001), Kennedy found that these features might be unreliable predictors of effective professional development practices. In addition, she concluded that negative emotional responses to professional development experiences could have a measurably deleterious effect on student learning. This finding presented a significant concern, as she argued that the "failure [of professional development] should yield a *null* [emphasis original] effect, not a negative effect" (p. 30). Based on this analysis, Kennedy argued that as a profession, educators need to ask questions about how professional development programs may produce negative effects. Though education research has developed strong theories about student learning, Kennedy argued that teacher learning is an area needing further study. She asserted that the field of education research needs to reconceptualize teachers as individuals with their own motivations and interests, and that effective professional development programs documented in the literature have intellectually engaged teachers, rather than simply presenting knowledge or prescriptions for learning.

Summary of Philosophical Frameworks of Professional Development

While Garet et al. (2001) developed a model for how professional development relates to teacher knowledge, teacher practices, and student learning that has proven robust, researchers question the utility of isolating individual factors in professional development. Scholars continue to negotiate between what Creemers et al. (2013) termed "performance-based models" and "reflexive practice." Some researchers, such as Darling-Hammond et al. (2009), DuFour (2004), and Hill (2009) have called for teachers and administrators to focus on promoting "what works" in professional development.

Limitations of time and funding in K-12 education as described by Hill (2009) give credence to the idea that effective teaching practices need to be identified and continued. Other scholars, such as Richardson (2003) and Kennedy (2016) have argued that efforts to find "what works" may overlook many of the complexities of teaching and can lead to ineffective professional development practices. As Kennedy (2016) argued, teachers should have an active voice in their own professional development to best address the needs of their own individual classrooms. Though some traits of teacher professional development activities may be more universally beneficial than others, the uniqueness of individual classrooms and teachers should temper broad generalizations.

Research on the Effectiveness of Professional Development Practices

In this section of the literature review, findings from investigations into effectiveness of professional development practices will be discussed. All of the studies presented in the following section examined professional development activities through the model of Garet et al. (2001)[2] to determine the impacts of professional development factors on teacher knowledge, teacher practice, and student learning within different content areas of K-12 education.

Cohen and Hill (2000) used survey data of California elementary math teachers to examine the effectiveness of professional development opportunities in changing teaching practices. Using data from a stratified random sample of 975 second through fifth grade teachers from 250 schools in California, the researchers developed regression models to predict teachers' teaching practices based on different types of professional

[2] The theoretical model of Garet et al. (2001) is discussed on p. 25 and presented in Figure 1.

development workshops and the time spent in workshops. A total of 595 teachers completed this study. The researchers used several regression models to control for teacher attitudes and familiarity with state math education reform efforts.

All teachers in this study received the same workshop format of professional development, though workshops were not all of equal duration or content. The researchers categorized both workshop topics into two types. Conventional math topics included testing students on computational skills, having students work individually on problems, and discussions on types of textbooks. Conversely, reform-oriented topics include implementing new curricular materials, organizing students into groups to solve math problems, and discussing mathematical thinking. Cohen and Hill analyzed teacher responses about specific classroom practices that were addressed in both conventional and reform-oriented math education workshops. By controlling for teachers' attitudes towards math education reform, the authors found that participation in reform-oriented workshops was linked to a significant increase in reform-oriented teaching practices, and the length of time spend in workshops was also positively correlated with adopting reform-oriented practices.

Desimone et al. (2002) conducted a 3-year longitudinal study to examine how six features of professional development would impact K-12 math and science teachers to include practices of technology integration, higher-order thinking skills, and alternative assessment forms into their teaching practices. Using data from ten school districts across five states, the researchers selected 30 schools and gathered a sample of 207 teachers who completed an annual survey for three consecutive years. A bias in this

sample was that 57% of the sample locations were high poverty schools, which were defined by Desimone et al. as schools with more than 50% of their students qualifying for free/reduced lunch. Using the same six characteristics for high quality professional development as described by Garet et al. (2001), the researchers developed a two-level hierarchical linear model (HLM) of professional development features and teachers' instructional practices. They found that professional development activities that involve active learning were linked with increased use of higher-order thinking activities in the classroom by a statistically significant margin. In addition, coherence—the alignment of professional development to district/school curriculum—was also found to be correlated with teachers' use of alternative assessment practices. Collective participation was found to have a significant impact on technology integration in teachers' classrooms. From these findings, Desimone et al. (2002) concluded that the professional development factors of reform-type professional development formats (e.g. study groups, teacher research), collective participation, and opportunities for active learning were related to significant changes in teachers' classroom practices.

Penuel et al. (2007) examined the effects of an earth science education curriculum and professional development program. This program, known as Global Learning and Observation to Benefit the Environment (GLOBE), was an international curriculum requiring specific protocols for instruction, assessment, and data collection. The authors noted that the program required educators to implement inquiry-based teaching practices to participate in the data collection part program and used this metric as an indicator of instructional change. A sample of 454 teachers who were part of the program took part

in a series of professional development workshops designed to improve content knowledge and promote inquiry-based instruction.

Using a two-level HLM to control for teacher and different professional development provider variances, the researchers examined teachers' use of the protocols for instruction, knowledge of pedagogy, and their self-reported changes in practice. Teacher-level variables included technology support, type of professional development activities, time spent in professional development, alignment of the program to school and district learning goals, and collective participation in professional development activities. In addition, control for teachers' education levels, teaching level, and certification were also used in the HLM analysis. At the second level of the model, the focus on implementing instruction, student inquiry, and GLOBE program content, as well as the hours of training offered, and university and/or school sponsorship of the program were used as independent variables.

Penuel et al. concluded that, when the program aligned with local district and school objectives, teachers were more likely to report increased knowledge of science pedagogy and personal change in teaching practice. However, the authors cautioned that the self-reported nature of the data may be biased as teachers may have judged alignment of the GLOBE program with their school curriculum only after implementation. The authors declared the investigation found further evidence supporting Garet et al. (2001) that reform style professional development activities are more effective at improving teacher knowledge and promoting teacher change than conventional models.

Gersten et al. (2010) examined the impacts of a professional development model known as teacher study groups on teacher knowledge, instructional practices, and student learning outcomes. Teacher study groups, as described in this study, were a model in which collaborative groups of teachers systematically reviewed research-based instructional strategies, collectively debriefed the research, and "walked-through" a lesson using the identified strategies.

For this multi-site study, Gersten et al. used data from 81 first grade teachers and their 468 students representing 19 schools from three urban school districts from three different states. Teachers from each district were randomly assigned to the teacher study group professional development, or to a control group that participated in their usual district-provided professional development programs. Members of the treatment group used the same texts on vocabulary and reading comprehension to guide the research study groups. Each of the three school districts had a district-wide curriculum for vocabulary and reading instruction that acted as a constant for each district.

Using a two-level HLM, the researchers first examined teacher-level impacts of the teacher study group model. They found that teachers in the treatment group scored higher on measures of reading comprehension and vocabulary knowledge compared to the control group, but only the gains in vocabulary knowledge were statistically significant. Teachers in the treatment group were also observed to have significantly changed their teaching practices in comparison to the control group. An examination of student achievement on standardized reading comprehension and vocabulary tests found no statistically significant differences between groups, but the researchers noted their

method was underpowered to detect such differences. Gersten et al. concluded that the teacher study group model provided consistency to a generally fragmented system of professional development but noted that evaluating the effectiveness of professional development programs is challenging due to the many circumstances that make it difficult to parse out various factors that may affect outcomes.

Penuel et al. (2011) conducted a comparison of the impacts of three different professional development workshops and a control group on student learning in earth sciences. A sample of 53 sixth-grade through eighth-grade science teachers from 19 urban middle schools were randomly assigned to one of three professional development workshops and a control group. Each of the professional development programs consisted of a two-week summer workshop with four follow-up meetings throughout the school year. One of the three professional development programs provided explicit instruction and modeled teaching using the framework *Understanding by Design* (Wiggins & McTighe, 1998) but provided little guidance in curricular materials using that approach. A second professional development program provided guidance to materials about implementing the *Understanding by Design* framework but did not receive training in how to teach these materials. A hybrid group received professional development that covered material from both of the other two treatment groups. The control group was directed to implement the *Understanding by Design* framework into their earth science curriculum but was given no training in how to teach nor were they given guidance to curricular materials using the framework.

The researchers expected the students of teachers in the hybrid group to outperform both of the other treatments and all treatments to outperform the control, but this was not the outcome of the quasi-experiment. Only those students whose teachers participated in the hybrid and first treatment group showed a statistically significant improvement in their pretest to posttest gains compared to the other two groups. Penuel et al. (2011) concluded that only professional development experiences that included a focus on instruction and modeling of teaching using the framework of *Understanding by Design* had an impact on student performance.

Akiba and Liang (2016) conducted a four-year longitudinal study on the impact of six professional development activities on middle school students' achievement on a state math assessment. The six types of professional development identified in the study were professional development programs and workshops, formal teacher collaborations (like PLCs), university or college courses, professional conferences, informal communications with colleagues, and individual learning activities like reading journals or analyzing student work. Using a statewide longitudinal survey data of 467 math teachers and 11,192 students' math scores, the researchers used an HLM to evaluate the impact of the six types of professional development activities while controlling for teacher and school demographic factors. They found that both formal teacher collaborations and informal communications were more effective than other forms of professional development in improving student math performance. Their data also suggested that informal communication may be more beneficial than formal collaboration efforts, but they

recommended schools focus on fostering both formal and informal collaboration between teachers as a means to improve student achievement.

Summary of Research on the Effectiveness of Professional Development Practices

Research examining the effects of professional development opportunities on teachers and their students has found evidence that the length of the activity, focus on content, and active learning opportunities are linked to increased teacher knowledge, changes in teacher practice, and increased student learning. However, the findings of Gersten et al. (2010) indicate that these relationships might not be as strong as early research by Garet et al. (2001) and Desimone et al. (2002) indicated. Furthermore, findings in these studies should only be generalized to specific professional development activities in specific teaching contexts. These caveats aside, this literature supports the idea that professional development activities that allow teachers to collaborate and critically discuss their own teaching have positive impacts on teaching and learning.

Professional Learning Communities

In this section I first present an overview of the historical context and development of the Professional Learning Community (PLC) model of professional development. Following this is a discussion about the description of PLCs from the seminal works by DuFour and Eaker (1998) and Newmann et al. (1996), as well as more recent descriptions used by DuFour (2004) and Eaker, DuFour, and DuFour (2002). After this discussion I provide an overview of research into the impacts of PLC participation on teachers and their students.

Historical Contexts Leading to the Development of Professional Learning Communities

Two of the architects of the PLC movement, DuFour and Eaker (1998), noted that PLCs in education professional development were in part a reaction to reform efforts of the 1980s and 1990s in American public education. DuFour and Eaker identified the publication of *A Nation at Risk* in 1983 as the catalyst for what they termed the "excellence movement" of the 1980s. The opening paragraph of *A Nation at Risk* presented a viewpoint that American public education was substandard but essential for economic and technological prosperity:

> Our Nation is at risk. Our once unchallenged preeminence in commerce, industry, science, and technological innovation is being overtaken by competitors throughout the world…We report to the American people that while we can take justifiable pride in what our schools and colleges have historically accomplished and contributed to the United States and the well-being of its people, the educational foundations of our society are presently being eroded by a rising tide of mediocrity that threatens our very future as a Nation and a people. (National Commission on Excellence in Education, 1983)

While *A Nation at Risk* led to an emphasis in raising standards in K-12 education, it did little to significantly change teaching practices. DuFour and Eaker (1998) characterized this "excellence movement" as calling for more homework, testing, requirements, and rigor, but offering no new insights or systemic changes to current practices of the time. Proponents of the "excellence movement" succeeded in lobbying Congress to require each state to set content standards, performance standards, and standardized test

requirements through the 1994 amendments to the Elementary and Secondary Education Act. However, after a decade of these efforts, there was no noticeable improvement in American education (DuFour et al., 2008). DuFour, et al. (2008) argued that the top-down attempt at implementing reform led to its failure. Reform efforts were led by state legislatures and government institutions, which left teachers and local administrators out of the process. The loss of autonomy in the classroom due to these efforts was a concern for teachers, and school administrators and community members were concerned about the apparent loss of local control (Archer, 2012; DuFour et al., 2008; Newmann et al., 1996).

As support for the "excellence movement" waned, education reformers challenged the top-down approach and argued for a return to local control. Dubbed the "restructuring movement" by DuFour and Eaker (1998), the aim of these decentralization efforts was to allow local school administrations to determine education goals and accountability measures. Supporters of the restructuring movement believed that with localized control, teachers and administrators would be empowered to shape school improvement. Education reformers hoped that having increased autonomy would lead to buy-in from teachers and administrators, and would result in improved student achievement.

While the reaffirmation of local control was championed as a positive development, the reality was that schools undertook only superficial changes to practices. DuFour and Eaker (1998) noted that there were several reasons these efforts failed to improve education: (a) the task was complex, (b) promising strategies for improving

schools were ignored, (c) the intended results were not clear, (d) perseverance in stakeholders was lacking, and (e) the change process was not appreciated or supported. One particular issue identified by Darling-Hammond (1996) was the disconnection between policy and practice. Policymakers may not have fully considered the implications of reform efforts nor considered how to feasibly implement them. As Darling-Hammond (1996) wrote, "Policymakers increasingly realize that regulations cannot transform schools; only teachers, in collaboration with parents and administrators, can do that" (p. 5). She further argued that meaningful reforms to education must come from those most directly involved: the teachers.

Origins of the Teacher Professional Learning Community

Darling-Hammond's 1996 statement that change needed to come from within the ranks of the teaching profession was contrary to the politically popular rhetoric on American education in the 1980s and 90s. While decentralization had failed to become mainstream in education reform, successful implementations of more egalitarian management structures in corporate and business communities became prominent (Archer, 2012; Newmann et al., 1996). As Archer (2012) described, the 1980s saw an increased focus on work culture as an area of research in the private corporate sector. In 1990, Senge's book *The Fifth Discipline* swept through the corporate business world (Archer, 2012). Senge (1990) stated that a leader who either enforces or perpetuates a rigid framework of practice for employees would ensure mediocrity in the organization. This need for control only serves to paralyze both leaders and workers, and perpetuates

the status quo of the organization according to Senge. Such organizations are unable to successfully adapt and flourish through changing circumstances.

Senge argued that a work culture with a focus on employee learning would generate more innovative and resourceful solutions. This conceptualized organization of learning was one "where people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning how to learn together" (Hord, 2004, p. 6). The idea of continuous improvement through a community of practice expanded within the business sector and gradually gained the attention of researchers in other disciplines. Within a decade of Senge's (1990) publication, communities of practice situated in K-12 education would be conceptualized and enacted.

This conceptualization of teachers as members of a shared professional community was a departure from the norms of American K-12 education (Archer, 2012; Darling-Hammond, 2009). Scholarship into teaching practices, such as Lortie's 1975 seminal *Schoolteacher: A Sociological Study,* presented an insightful view that teachers primarily worked in isolation, particularly when compared to other professions. This body of research indicated that teachers typically worked individually their own classrooms, separated from their colleagues, and had little oversight and interaction from their administrators (Archer, 2012; Darling-Hammond et al., 2009). While this isolation afforded teachers a lack of pressure and demands from the workplace superiors, it also contributed to boredom and professional stagnation (Archer, 2012; DuFour et al., 2008). As Archer (2012) and Darling-Hammond et al. (2009) discussed, the isolation of teachers

directly contributed to the ineffectiveness of school reform efforts. Teachers had little incentive to change their practices, and there was little oversight to verify if any meaningful changes in classroom practices took place.

The success of communities of practice in private sector workforce development stimulated scholarship on learning communities and teacher-centered reforms in education research and questioned traditional practices (Archer, 2012; Newmann et al., 1996). The genesis of PLCs in education can be traced to research efforts in the early 1990s that examined school culture and effective learning. In 1993, Little and McLaughlin published a book detailing their research on effective schools. They found that the most effective schools and school departments were professional communities with (a) shared norms and beliefs, (b) collegial relations, (c) collaborative cultures, (d) reflective practices, (e) ongoing technical inquiry of effective practice, (f) professional growth, and (g) mutual support and obligation. In another investigation, Newmann et al. (1996) conducted case studies of 24 "significantly restructured public schools" located in primarily urban areas serving communities of low socioeconomic status. From survey, interview, and observational data collected over an entire year at each site, the authors examined the impact of school reform efforts on student achievement. Schools with successful professional communities were found to have improved student learning and teacher commitment to changing and improving practices. These successful professional communities shared five characteristics: (a) shared norms and values, (b) focus on student learning, (c) reflective dialogue, (d) deprivatization of practice, and (e) collaboration (p. 181). From this investigation, Newmann et al. recommended that

building a collaborative staff community of practice was a crucial component to improving student learning.

While more research examined the potential for learning communities in K-12 education developed in the early 1990s, PLCs were relatively uncommon in K-12 schools (Archer, 2012; Fullan, 2007). The publication of *Professional Learning Communities at Work: Best Practices for Enhancing Student Achievement* by DuFour and Eaker (1998) expanded the interest in PLCs from a primarily research-oriented audience to the practitioner audience in K-12 education (Archer, 2012; Carpenter, 2012). Though PLCs became more widespread after this publication, Archer (2012) and Fullan (2007) noted that the term "PLC" traveled throughout the teaching profession faster than the model's underlying concepts. While PLCs held promise for providing meaningful professional development in theory, the reality was that some PLCs were implemented in name only. A disconnect between the theory and practice for the PLC model was likely to contribute to inconsistent implementations of the framework. These misappropriations of the term continue to plague professional development practices (DuFour & Mattos, 2013; Vescio et al., 2008).

Describing Professional Learning Communities

A problem in the research literature on PLCs is that there has not been a consistent definition of PLC or a collective understanding of what is meant by the term (DuFour, 2004; DuFour and Mattos, 2013). The evolving understanding of PLCs has also meant that various investigations have used differing terminology to describe professional development activities that may or may not be PLCs according to DuFour

and Eaker (1998). To present a brief overview of what is meant by the term, a "professional learning community" definition from DuFour and Eaker (1998) is presented, as well as revised definitions by Eaker, DuFour, and DuFour (2002) and DuFour (2004). An understanding of this history of the evolving descriptions of PLCs can help situate scholarship on the professional development model.

Though Newmann et al. (1996) did not use the term "PLC," their description for effective teacher collaboration models identified five characteristics that have been used by other researchers to describe PLCs (Vescio et al., 2008). In their framework, the first characteristic of effective collaborative teacher groups is an explicitly shared set of norms and values between group members. The second characteristic they identified was a clear and consistent focus on student learning. A third characteristic, reflective dialogue, referred to the "teachers' awareness of their practice and its consequences" (p. 182). Along with reflective dialogue, Newmann et al. also identified deprivatization of practice as crucial to allowing teachers to gain useful insight and feedback from their colleagues about their own practices. This "deprivatization of practice" could include allowing colleagues to observe one's teaching, planning lessons with other teachers, and sharing ideas and experiences with peers. Newmann et al. describe the final characteristic, collaboration, as the "natural outgrowth of reflective dialogue and deprivatized practice" (p. 183). In their framework, collaboration is what allows the reflective and critical discussions of practice and joint planning for improvement to take place.

In one of the first texts to discusses PLCs as a form of teacher professional development, DuFour and Eaker (1998) identified six core characteristics. These

included: (a) shared mission, vision, and values; (b) collective inquiry; (c) collaborative teams; (d) action orientation and experimentation; (e) continuous improvement; (f) results orientation. While this description of a PLC was later refined by the authors (DuFour, 2004; Eaker et al., 2002), the 1998 description is useful for understanding the various facets of the PLC model.

DuFour and Eaker (1998) stated that a shared mission, vision, values, and goals are the critical factor that distinguishes a PLC from other teacher communities. These guiding principles should not just be articulated by the school administration, but should be integral in the practice and vision of the entire PLC community. DuFour and Eaker argued that developing shared mission, vision, values, and goals is the foundation of the PLC as it establishes how the PLC intends to improve student learning and why the work of the PLC matters.

Collective inquiry was the second core characteristic identified by DuFour and Eaker. According to DuFour and Eaker, members of the PLC should be relentless in questioning the status quo and examining new teaching methods. This emphasizes that the process of continually searching for answers and new experiences is more important than arriving at a single solution. A process of questioning assumptions, coming to a shared understanding, planning and coordinating action, and analyzing the results of said action enables PLC members to develop new skills (p. 26).

The next characteristic of PLCs described by DuFour and Eaker was collaborative teams. These form the basic organizational structure in the professional development model. While individual growth in knowledge and skill is essential for organizational

growth in the school, DuFour and Eaker noted that individual growth does not guarantee organizational growth. In their PLC model, learning is approached as a collaborative task rather than an individual one. DuFour and Eaker commented that team learning is different from team building. In their conceptualization:

> The latter focuses on creating courteous protocols, improving communication, building stronger relationships, or enhancing the group's ability to perform routine tasks together. Collaborative team learning focuses on *organizational* [emphasis original] renewal and a willingness to work together in continuous improvement processes. (p. 27)

According to DuFour and Eaker, the inclusion of these collaborative learning teams in the PLC model is essential.

Action orientation and experimentation refer to the willingness of members to turn ideas into actions and to experiment. These actions inform reflection and evaluation of ideas and methods. PLC members view experimentation, regardless of results, as integral to the learning process. This disposition relates to the fifth characteristic of continuous improvement, which states that improvement is not a task to be completed, but a commitment to a way of conducting professional development.

The culminating characteristic of a PLC is that all actions and efforts are assessed based on their results rather than their intentions. Teachers must use data to inform whether the initiatives they have undertaken as part of the PLC are having the intended impact. Though this data may take many forms, it must be based in tangible empirical

results. Without this critical piece of assessment, PLCs simply result in random and disconnected actions rather than meaningful and purposeful improvement.

Eaker et al. (2002) modified their initial description into a conceptual framework of three major themes. In this description, PLCs share (a) a collaboratively developed and shared mission, vision, values, and goals within the group and the school; (b) collaborative teams working interdependently towards common goals; and (c) the use of student data to drive instructional and school improvement to the intended results (Eaker et al., 2002; p. 15). This refined definition has been relatively resilient and used by researchers (Archer, 2012; DuFour, 2004; DuFour & Mattos, 2013).

DuFour (2004) described three big ideas of PLCs as (a) ensuring that students learn, (b) a culture of collaboration, and (c) a focus on results. In describing the first idea DuFour stated, "The core mission of formal education is not simply to ensure that students are taught but to ensure that they learn. This simple shift—from a focus on teaching to a focus on learning—has profound implications for schools" (p. 8). The focus on learning, rather than teaching, is thus critical in order to set up the mission, vision, and goals of the PLC and the school at large. DuFour developed three questions to drive the work of PLCs: "(a) What do we want each student to learn? (b) How will we know when each student has learned it? and (c) How will we respond when a student experiences difficulty learning?" (p. 8). DuFour and Marzano (2011) would later add a fourth question to extend the focus from simply achieving proficiency to encompassing all learners: How will we enrich and extend the learning for students who are proficient?

With regard to these questions, DuFour argued that the school community must develop a systematic response when the answers to the questions above indicate that a student is having difficulty. These responses to student need should be timely, based on intervention rather than remediation, and directive—requiring students to devote time to mastery rather than simply providing opportunities for students to seek assistance. Additional supports for students should come prior to any summative evaluation and preferably as soon as a student experiences difficulty. DuFour warned that this assistance does not constitute summer school, retention, and/or remedial courses. Instead, he argued PLCs should develop interventions that are integrated into classroom instruction to support students when the learning goals are not being met.

The second big idea of PLCs articulated by DuFour (2004) focused on a culture of collaboration. Collaboration is not simply teachers spending time together in a room discussing the operations of the school, like scheduling or discipline plans. In the context of PLCs, collaboration calls on teachers to make public what has typically been private—the happenings within the closed door of the classroom (DuFour, 2004, p. 10). PLC discussions should focus on the sharing and critiquing of teaching strategies, materials, pacing, assessment, and student learning in the teachers' classrooms. These discussions on teaching practices provide teachers a support network to improve the classroom practices, both individually and collectively.

Collaboration within the PLC is not automatic, and DuFour identified several processes to help surmount common barriers to productive collaborations. First, all members of the PLC group must focus on student learning and meet at regular designated

times throughout the school year. Second, PLC members must develop norms to clarify expectations of responsibilities and relationships within the group. Finally, teachers within the PLC must hold each other accountable for meeting the goals of the PLC. According to DuFour (2004), if a PLC is fully committed to collaborating for the benefit of student learning, they will find a way to make it happen.

The third central idea articulated by DuFour was, "Professional learning communities judge their effectiveness on the basis of results" (2004, p. 10). Teachers need to assess the ability of all of their students and establish goals building upon student knowledge and abilities until each student is deemed to have met the standard of proficiency through documented evidence. The creation of these goals and collection of student data is the collective responsibility of the entire PLC. Student data are then used to indicate the strengths and or weaknesses of instructional practices, and may inform areas for improvement. According to DuFour, student data are useless unless they are analyzed and used to inform adjustments in practices that may positively impact student learning.

DuFour characterized typical school practices as data rich but information poor. Teachers may be able to identify how many students pass an exam, but there is little evidence collected to determine what students learned throughout the course of a unit, semester, or year. According to DoFour, data can only be a catalyst for improved teacher practice if the teacher has the ability to compare data between students and classes. In

this regard, DuFour argued that the development of "common assessments"[3] allows teachers the opportunity to compare all grade level students against one another in order to identify areas of concern. Such practice allows teachers to collectively pool ideas for the benefit of the entire PLC. An ever-present focus on data-driven instruction is what DuFour claimed unites the central ideas of his PLC model. Student data informs and directs meaningful collaboration, and student learning is always a focal point. This collection of data allows teachers to see results of their efforts, informs instruct adaptations celebration of successes.

Summary of PLC descriptions in the literature. The original conceptualization of PLCs by DuFour et al. (1998) identified five characteristics: (a) shared mission, vision, and values; (b) collective inquiry; (c) collaborative teams; (d) action orientation and experimentation; (e) continuous improvement; (f) results orientation. While other earlier researchers like Newman et al. (1996) and more contemporary scholars like Vescio et al (2008) used similar descriptions to DuFour et al. (1998), recent scholarship by DuFour has adopted a more concise description of PLCs. The three central ideas of DuFour (2004)—(a) ensuring that students learn, (b) a culture of collaboration, and (c) a focus on results—have created a simpler definition. This revision was created to accentuate the importance of collaboration, using data to inform practice, and a shared focus on student learning in PLCs. Though other researchers' descriptions of PLCs may elaborate on these three ideas, DuFour (2004) stated that they are the critical components for a group of

[3] An assessment created by a team of teachers to be formatively used across all sections of a class or grade level used to identify students' learning needs, effective teaching strategies, and areas for program improvement (DuFour et al., 2008).

teachers to be a PLC. However, as DuFour (2004) and DuFour and Matthos (2013) warned, the term "PLC" is neither universally defined nor understood. For this reason, scholars such as DuFour and Matthos (2013) and Vescio et al. (2008) stated that it is imperative to understand the definition of PLC used by researchers within the literature.

Studies on Professional Learning Communities in the Field

In this section I discuss key findings in the literature about the impacts PLCs have been found to have on teacher knowledge, teacher practices, and student achievement. This section is followed by a review of studies that have examined specific outcomes related to PLC participation.

An early case study of a PLC was conducted by Grossman, Wineburg, and Woolworth (2000). The purpose of this study was to develop a model of teacher community formation from interviews and observations of a PLC over a two and a half year period. Members of this PLC were English and social studies teachers at an urban high school; the researchers held dual roles as both investigators and leaders of the PLC. The group met once a month for an entire day and for a full week in August each year of the study. In their analysis of the PLC, Grossman et al. characterized four aspects of the PLC: formation of group identity, understanding differences, negotiating the essential tensions of professional development, and taking communal responsibility for individual growth (p. 45). Grossman et al. described three distinct stages of formation as the group developed and negotiated the four aspects Grossman et al.'s PLC model.

In the beginning stages of the PLC, teachers tended to identify with their sub-group, which in this study were English teachers and social studies teachers. Grossman

et al. commented that a sense of individualism permeated the group, and there was an undercurrent of incivility between some PLC members. During PLC meetings in the early stages of the study, the PLC members did not acknowledge differences they had in opinions, though they mentioned such differences in interviews. Left unaddressed, these differences in opinions led to a lack of consensus over the purpose of the PLC and perpetuation of antagonistic goals between individuals and groups.

As the PLC entered what Grossman et al. labeled the "evolving" stage, many of the underlying antagonisms of the initial stages became more overt. The group began to develop into what the researchers termed a "pseudocommunity," where participants suppressed conflicting ideas within the PLC to create a façade of consensus within the group. The researchers noted this inhibited meaningful dialogue about teaching. It was at this stage that conflicts between teachers began to erupt into the group discussions. These disruptions in the pseudocommunity created a culture of apprehension and fear in the PLC and caused the researchers to take a more active role in leading the PLC to mitigate these tensions that threatened the continuation of the PLC.

After passing the often-tense "evolving" stage the group arrived at what Grossman et al. called the "mature" stage. At this point the participants identified with the entire group while recognizing the multiple perspectives as an asset. Participants recognized their colleagues as resources, active participation in the PLC became the norm for all members, and members felt a communal responsibility for conduct within the group. Conflicts in discussion were treated as an expected feature of the PLC and were

handled openly and respectfully between group members. Schisms between teachers were reconciled, and all teachers came to mutual understandings.

From this investigation Grossman et al. concluded that time and resources alone are insufficient to build a PLC. Overcoming the inherent professional isolation of school teaching presented a significant obstacle to the PLC. Grossman et al. stated that building a community is far easier with "like-minded" teachers, as it is far easier to continue typical teaching work in isolation than to work with other adults holding conflicting beliefs about teaching (p. 47).

Though there were difficulties in building a respectful and productive teacher community in the investigated PLC, Grossman et al. argued that the benefits of the PLC made the challenge worth undertaking. In their conclusions they remarked:

> If teachers themselves cannot reclaim a civil discourse and an appreciation and recognition of diverse voices, how can they prepare students to enter a pluralistic world as citizens? If we are unable to broker the differences that divide us, how can we tell students to do otherwise? Of all the habits of mind modeled in schools, the habit of working to understand others, of striving to make sense of differences, of extending to others the assumption of good faith, of working toward the enlarged understanding of the group—in short, the *pursuit of community* [emphasis original] may be the most important. (p. 55)

In another investigation, Little (2003) conducted a qualitative collective case study of English and math teachers in PLCs at two separate high schools. The purpose of

the study was to determine if teachers planned together in the PLC and if they followed through and taught their planned ideas. Little posited that teachers would "fall back on what they know" when innovative ideas developed in the PLC did not match their own paradigm of teaching practices. It was also hypothesized that teachers may not accurately portray their classroom teaching to their colleagues to avoid conflict in the PLC and/or having to share negative teaching experiences with colleagues. From her analysis of videotaped interviews with participants and observations of teachers' classrooms and PLC meetings, she found that teachers followed through in implementing ideas from the PLC. Her data also indicated that teachers accurately described their own classroom practices in PLC meetings, regardless of whether the strategies they developed in the PLC were successful with students. Little concluded that PLC members needed to be open and honest in describing their actual practices as it allows for teacher PLCs to develop best practices through a continuous process of trial and error.

Supovitz and Christman (2003) reviewed the impacts of newly implemented teacher learning communities in two urban school districts over a four-year period. In one school district the implementation of teacher learning communities was mandatory, while in the other district the implementation was voluntary. In both settings, data collected included student achievement data from standardized tests and multiple surveys of teachers, students, and parents. Supovitz and Christman found that implementation of teacher learning communities had a positive effect on the learning culture of the school, which was observed by teachers, students, and parents. While there was consensus on an improved learning culture in the schools with teacher learning communities, the

researchers did not find significant evidence that teaching practices had changed because of the learning community groups. Similarly, the researchers did not find consistent evidence that the teacher learning communities had led to increases in student academic achievement. Though one of the districts reported improvement in student reading test scores, the researchers attributed this to a literacy initiative rather than the implementation of teacher learning communities.

In a 2008 review of the literature, Vescio, Ross, and Adams examined the EBSCO and ERIC databases for published books and articles that discussed PLCs and teacher practices or student learning. Vescio et al. further narrowed the literature of their review by removing all studies of collaborative efforts that failed to meet all criteria of PLCs using the description of effective teacher collaborations by Newmann et al. (1996). Vescio et al. (2008) further narrowed their selection to only studies that included measurements for teacher practices and student learning in the research design, which delimited the scope to 11 studies examining the impacts of PLCs on teacher practice and student learning.

With regards to teacher practices, Vescio et al. (2008) stated that most of their reviewed studies failed to describe specific teaching practices that had changed during the course of the investigations. Teachers often reported changes in their teaching practice, but researchers did not clarify how practices had changed, nor did they gather a baseline of teacher practices prior to the investigation. Vescio et al. concluded that while the reviewed research reported that teachers perceived changes in their practices, the researchers did not provide sufficient evidence to support specific claims of how

practices had changed. This finding presented a question of whether perceptions of change are indicative of actual change, and Vescio et al. recommended that researchers identify specific changes in teaching practices in future investigations.

In their examination of literature on impacts of PLCs on student learning, Vescio et al. concluded that the reviewed literature provided some evidence that student learning improves when teachers participate in PLCs that meet all criteria established by Newmann et al (1996). Of the five characteristics of effective teacher collaboration identified by Newmann et al., Vescio et al. (2008) found that a focus on student learning was the key element in the documented increases of student achievement in the reviewed literature. Despite these positive findings about the impacts of PLCs, Vescio et al. cautioned that the there was little research into the impacts of PLCs on teacher practice and student learning. The authors recommended that further study is needed on the impact of PLCs and emphasized the need for longitudinal and quantitative studies.

In a narrative case study, Craig (2009) investigated teacher experiences with PLCs in an urban middle school. For this study Craig differentiated between *practical* and *formal* views of knowledge as they relate to communities of teachers. Craig defined *practical knowledge* as knowledge informally and formally acquired by doing, while *formal knowledge* is knowledge directly passed down in a formal learning setting. According to Craig, a knowledge community is an organic group of people who freely make sense of the experiences and develop practical knowledge. This is contrary to a PLC, which Craig argued presents a more formal approach primarily driven through administrative decree. The chief difference between these two types of communities is

that knowledge communities focus on accounts of practice, and collaborations may emerge informally, whereas PLCs are focused on results (DuFour, 2004) and impose an expectation of collaboration. Craig observed that this difference had significant ramifications for how teachers and administrators perceived learning communities in practice.

Craig investigated a school that recently implemented PLCs with significant support from administration. During this investigation, a literacy trainer who facilitated the PLCs increasingly assumed the leadership roles previously held by the department chairs in the informal community in each subject area. While the teachers reported great respect for their principal, poor experiences with the literacy trainer brought in to direct several PLCs eroded the respect between administrators and teachers. The school experienced a significant culture shift, as teachers were subject to frequent classroom observation, and teacher feedback practices, which sometimes took place during teachers' regular class sessions by the literacy specialist, were occasionally scathing. In this environment, teachers no longer felt like their experiences mattered, and the administration became more entrenched in continuing these controversial practices that were causing discord. This power struggle of the administration only served to fuel a toxic environment for staff. By the end of the study, many teachers and some administrators had left the school, citing the climate as the reason why. Craig concluded by cautioning that top-down approaches that mandate practices can invalidate teachers' sense of efficacy and in fact undermine efforts to improve practice.

Summary of research on professional learning communities in the field.

Research suggests that there are benefits for both students and teachers from PLC participations. However, there have been few studies conducted that examine the student impacts of PLCs (Vescio et al., 2008). Because researchers (DuFour, 2004; DuFour & Eaker, 1998; DuFour et al., 2008; Newmann et al., 1996) have stressed the importance of student learning results in guiding PLCs, it is odd that there is not more research into how PLCs affect student achievement. Additional research by Craig (2009) and Grossman et al. (2000) illustrated challenges to successful PLC implementation in K-12 settings. Difficulties in working collaboratively with colleagues can impede PLCs from being effective and can create resentment amongst teachers to the professional development model.

Professional Development in Music Education

This section of the literature review discusses scholarship specifically relating to the professional development of music teachers. First, an overview of research identifying issues unique to music educators is presented. Next, there is a review of research on teacher perceptions and experiences with professional development from national surveys, regional surveys, and qualitative investigations. The final section of the literature review on music teacher professional development describes studies of how professional development opportunities affect music teachers, divided into sections about non-collaboration models and collaboration models.

The Unique Needs for K-12 Music Teacher Professional Development

Scholars have identified several issues unique to K-12 music educators that could impact their needs for professional development. Conway (2003) identified duties, such as recruiting students, planning concerts and trips, fundraising, performing, and participating in musical competitions, were expected of music teachers, but not of teachers of other subjects. Other researchers have corroborated these findings (Baker, 2007; Bell-Robertson, 2015). Gardner (2010) found that music teachers are more likely to work in multiple buildings and are more likely to be employed part-time compared teachers of other subject areas. Additional challenges faced by music teachers include the large number of students taught by music teachers compared to teachers of other subject areas and heavy extra-curricular activity schedules (Conway, 2006). In addition, music teachers face issues of isolation from their colleagues, which negatively impacts their teaching (Bell-Robertson, 2015; Krueger, 2003; Sindberg, 2011; Sindberg & Lipscomb, 2005). While these challenges may impact all music teachers, particular attention has been given to the deleterious effect these factors can have of novice music educators (Bell-Robertson, 2015; Conway, 2003).

Of the issues facing music teachers, music teacher isolation has been investigated in a relatively recent line of research. The first inquiry into the professional isolation of music teachers was conducted by Sindberg and Lipscomb (2005), who surveyed music teachers in the state of Illinois. Drawing from a random sample of 100 music teachers from a list by the State Board of Education, 36 participants completed the survey. Key findings were that music teachers felt isolated due to both the remoteness of their

classroom in the school building and the uniqueness of their content subject and that this isolation had a negative impact on their teaching. These feelings of isolation were more pronounced in less experienced teachers compared to their more experienced peers.

Further qualitative investigations by Sindberg (2011; 2014) have elaborated on the issues of music teacher isolation. In a qualitative phenomenological study, Sindberg (2011) found that heavy workloads for teachers and itinerancy hinder teachers from feeling connected to other teachers in their school building. For some, this would extend to being entirely left out of conversations between other faculty and administration. In a separate qualitative case study examining the working lives of urban music teachers, Sindberg (2014) found that some music teachers even felt isolated from their music teacher colleagues. One participant described feeling disconnected from fellow choral music educators and conferences because his students had different learning needs than those of his colleagues, and he felt he did have not professional support for the issues relevant to his teaching situation. Both of these investigations found evidence that experiences of isolation in music teachers are highly variable and depended both on the context of the school and the individual personality of the teacher.

To summarize this section, unique aspects of music teaching may influence the specific professional development needs and experiences of music teachers, particularly for novice music teachers (Barrett, 2006; Bauer, 2007; Bell-Robertson, 2014; Conway, 2003; Stanley, 2011). Research on professional development investigating K-12 education in general, or specific inquiries into professional development for teachers of subjects such as math, reading and science, may not pertain to the realities and needs of

the music teaching profession. To address these concerns of applicability, the following sections of the literature review discuss research findings specific to professional development of K-12 music teachers.

Music Teachers Perceptions and Preferences of Professional Development

In a 2007 review of the literature of music teacher professional development, Bauer noted there have been relatively few systematic inquiries into the professional development of music educators compared to the research literature of professional development in K-12 education at large. One particular issue noted by Bauer is that the literature that does exist in the field of music education has limited generalizability. Qualitative investigations into music teacher professional development, though common in the literature, are problematic to generalize to larger samples (Bauer, 2007; Conway & Edgar, 2014). Bauer (2007) also stated that most quantitative studies into music teacher professional development were conducted within regional populations. While regional surveys and qualitative investigations can illuminate issues in music teacher professional development, it is difficult to infer the most pressing issues for all music teachers from this data. However, from the time of Bauer's article there have been two recent investigations into music teacher professional development using data from nationally representative surveys. In this section of the literature review, research is organized into nationally representative surveys, regional surveys, and qualitative investigations.

National surveys on professional development in music education. Parsad and Spiegelman (2012) examined data from the *Arts Education in Public Elementary and Secondary Schools* surveys conducted by the National Center for Education Statistics

(NCES) that were administered in the 1999-2000 and 2009-2010 academic years. Using nationally representative stratified random probability sampling, the NCES collected responses from elementary and secondary music educators. Response rates were high for both groups, with 87% (n = 1,150) of elementary music teachers and 82% (n = 1,070) of secondary music teachers completing the survey. For all analyses, the NCES weighted responses based on demographic information to account for non-response bias.

Using the most recent data from the 2009-2010 survey, Parsad and Spiegelman found that most elementary music teachers (61%), and secondary music teachers (69%) took part in at least one type of professional development activity offered by their school. Additionally, 41% of elementary music teachers and 59% of secondary music teachers reported attending off-site workshops or conferences for professional development. A third option, "workshops with professional groups and artists," was cited as a professional development opportunity by 34% of elementary and 41% of secondary respondents. In-school seminars or conferences were the least common music professional development offerings, with only 25% of elementary and 27% of secondary music teachers reporting participation in such offerings.

In addition to questions on professional development participation, the *Arts Education in Public Elementary and Secondary Schools* survey also asked respondents about the topics of professional development activities. Parsad and Spiegelman found that most elementary and secondary music teachers reported that professional development sessions on topics like connecting music to other disciplines and integrating technology into music instruction were the mostly commonly attended. However, both

elementary and secondary teachers identified professional development that included applied study in music performance as the most beneficial for improving their own teaching. From these findings the authors concluded that the professional development opportunities that respondents were most likely participate were not aligned with the types of opportunities that were the most beneficial.

Gallo (2015) conducted another investigation on the professional development of music educators from a nationally representative sample. Using data from the 2011-2012 *Schools and Staffing Survey* administered by the NCES, Gallo (2015) conducted a secondary analysis of the survey data to examine how music teachers' experiences with professional development and mentoring programs for first-year music teachers compared to the experiences of teachers in other subject areas. For this investigation Gallo used five subgroups of teachers to compare with the music teacher subgroup: elementary teachers, English teachers, math teachers, biological science teachers, and social studies teachers.

Gallo found that music teachers' experiences of professional development were not altogether better or worse than the experiences of teachers of other subject areas. Music teachers reported being able to spend more time observing other classrooms than teachers of other subjects and reported the highest satisfaction with content-specific professional development opportunities. In addition, music teachers reported taking a comparable amount of time to participate in content-relevant professional development to all other teacher subgroups. Some of the discrepancies Gallo found in professional development opportunities between music teachers and teachers of other subjects were

that music teachers reported having less time for collaboration with colleagues and for professional development opportunities related to technology. Music teachers also reported they were informally evaluated by administrators fewer times than teachers of other subject areas. Gallo concluded that these findings challenged the assumption that shortcomings of professional development opportunities are unique to music teachers.

While Gallo found that music teachers had comparable experiences with professional development as teachers of other subjects, there were statistically significant deficiencies in music teachers' experiences with mentoring activities for first-year music teachers. Music teachers reported having less time for shared planning with mentors and were less likely to have mentors within their own school or within the same discipline when compared to teachers of other subject areas. In addition, music teachers reported feeling less satisfied with their mentorship program and having less administrative support when compared to the other subgroups. Gallo found that teachers of "high-stakes" subjects such English, math, and elementary grades that are subject to standardized testing reported having significantly higher quality mentorship and support than music teachers and teachers of biological and social sciences. From this finding, Gallo concluded that music teachers might not be any more disadvantaged than teachers of other "low-stakes" subject areas, such as social studies and biological science.

Regional surveys on professional development in music education. Friedrichs (2001) conducted a survey of high school instrumental music teachers in California. From a random sample of 960 teachers from the state, he received 242 completed surveys for a 25.2% response rate. Teachers rated the following four professional development

activities as effective and valuable: hosting a guest clinician/teacher, observing other rehearsals, attending music conferences, and attending concerts. In addition, participants viewed four professional development activities as ineffective: inservices held within the teacher's own school, county office education workshops, district-sponsored workshops, and non-music workshops. Friedrichs noted that music teachers listed activities with an explicit music focus as useful, while activities designed for educators of all subject areas were viewed negatively. In addition to the descriptive statistical analysis, Friedrichs conducted cross tabulations and Spearman-Rho rank correlation coefficients to determine if differences existed between demographic subgroups of music teachers' professional development interests and experiences. Comparing music teachers with more than 15 years of experience with those with fewer, Friedrichs found the more experienced group attended significantly more workshops and conferences and reported these experiences as being more valuable than their less experienced colleagues. However, it should be noted that all of these findings used an alpha level of $p < .10$, which allows for a higher Type-I error rate than the $p < .05$ levels typical in education research.

Bowles (2002) surveyed K-12 music educators in a Midwest state who were active members in their state music educators association to examine the self-expressed professional development needs of music teachers. A questionnaire was sent to 1,541 active members of the state music educators association, and 456 individuals completed the survey for a 29.6% response rate. Responses revealed that music technology, assessment, integrating standards, and choral/instrumental literature were the most popular topics for professional development. Of the forms of professional development

identified in the survey, participants ranked graduate coursework as the most preferred form of professional development, followed by workshops and conferences sponsored by national, state, or local music organizations. Teachers reported that developing their own knowledge and skill was the primary motivation for engaging in a professional development activity, but most also agreed that they wanted to receive graduate credit for their professional development participation. Over half of participants (56%) agreed that they'd be willing to complete additional work and preparation for professional development sessions outside of formal meeting time, and 80% agreed that they would be willing to complete extra work for additional credit.

In another Midwest study, Tarnowski and Murphy (2003) conducted a survey of elementary music educators in Minnesota and Wisconsin. From a random sample of 816 music educators of members of state music educators associations, the researchers received 281 completed surveys for a response rate of 34%. While the purpose of this investigation was to examine why individuals decided to become and remain elementary music teachers, there were some survey items pertaining to professional development. Tarnowski and Murphy found that 97.5% of teachers reported participating in professional development activities. Participants were also asked to identify professional development session topics they would want to attend. Professional development sessions on Orff Schülwerk, teaching with technology, assessment in music, and standards-based teaching were selected by more than 50% of participants as topics they would find of interest. Kodâly, world music approaches, and interdisciplinary approaches were identified as topics wanted by at least 40% of participants. Sessions on

Dalcroze were the least popular; only 29% of participants identified them as sessions they would want to attend.

Bush (2007) surveyed a stratified random sample of 108 music educators (a 65% response rate) from a southwestern state representative of four groups of band, choral, orchestra, and general music teachers. A notable bias in the sample method was that music teachers of multiple areas (e.g. general music and choral music) were excluded from selection, which may have contributed to the fact that 82.5% of the respondents taught in urban areas. Bush found that "discussions with fellow music teachers" was identified as the most important form of professional development by all four subgroups. Summer and/or weekend workshops and state music educator conferences and in-services were also identified as important professional development opportunities by all four subgroups. District-sponsored professional development in-services and workshops were identified as the least important form of professional development included in the survey, behind internet resources, professional journals, national in-service conferences, and discussions with non-music teachers. In addition, participants were asked to identify the topics they would most like to see at professional development workshops. Choral, band, and orchestra teachers were most likely to report sessions about repertoire as their top choice while general music teachers wanted sessions on assessment. Band and orchestra teachers also frequently reported a preference for sessions on advanced instrumental techniques followed by technology, assessment, and recruiting. Choral music teachers reported similar preferences, with technology, recruiting, and conducting as their most wanted session topics. General music teachers were the most dissimilar group of the four,

and identified sessions on lesson planning, technology, curriculum, and classroom management as their top choices for professional development sessions.

In one of the larger regional studies of professional development, Bernard (2009) surveyed elementary music educators in six southern states. Of the 3,423 members of the six state music educator associations, 479 participated in the survey. The main reasons cited by respondents as reasons to participate in professional development were to increase their knowledge and skills, to fulfill state requirements, and to increase student achievement. The most popular topics for professional development activities in order of preference were the National Standards, Orff Schülwerk, multicultural music, and technology. Summer workshops were the most popular format for professional development. Respondents cited non-music activities, lack of school financial support, and lack of collaboration with other music teachers as barriers to their own professional development. In addition to descriptive statistical analysis, Bernard conducted chi-square tests to determine if professional development topics were related to teachers' reported changes in practice. His findings were that educators who participated in a professional development session about a specific topic were more likely to integrate new practices into their instruction than those who did not participate. Another survey question asked if participants though mentors would improve professional development success. Most agreed, and an ANOVA revealed that there were not statistically significant differences between teachers of different states.

For a 2009 dissertation, Ferrara surveyed New Jersey School Music Association members about their preferences for professional development to develop a model for

high-quality professional development activities. Of the 412 potential respondents, 167 completed the survey for a response rate of 40.5%. Ferrara found that music educators preferred topics of music technology and performance pedagogy for professional development opportunities and that music workshops and conferences were the most preferred format for professional development activities. Ferrara also found that a majority of teachers felt that they did not have control over their own professional development participation, though they felt their professional development experiences had positively contributed to their teaching abilities. A 2-proportion z-test was conducted to examine teachers' perceptions of how to improve their professional development and a statistically significant higher proportion reported wanting more autonomy in directing their own professional development as opposed to simply changing the content of their current professional development. From this finding, Ferrara recommended that professional development should be based on the self-expressed needs of music educators. Ferrara also recommended that professional development offerings should be flexible so teachers can engage in multiple activities, and that all professional development activities should include assessment and reflection.

In another recent dissertation, Hesterman (2011) surveyed 1,144 K-12 music educators at both public and parochial schools listed on the Nebraska Department of Education website and received 456 responses with a response rate of 39.9%. Participants reported that in-service activities provided at the school district or building were the most common form of professional development experienced by teachers. Conference attendance and classroom observations by administrators and other teachers

were the second and third most-cited forms of professional development experienced by teachers. Similar to the findings of Friedrichs (2001), Hesterman (2011) noted that professional development activities that were not music-specific were found to be useful by less than half of all respondents. Conference attendance and graduate study were identified as the most useful professional development activities. While most teachers reported having some support from their school to pursue professional development opportunities like professional leave and paid substitutes, they still cited a lack of financial and time-off supports as impediments to their professional development.

Using teacher demographic data to compare professional development experiences between groups, Hesterman found significant differences in likelihood of participation of professional development between groups of teachers based on their years of teaching experience. For this analysis, teachers were divided into three groups: those with 1-7 years of teaching experience, those with between 8-15 years of teaching experience, and those with more than 15 years of teaching experience. A three-way ANOVA revealed that teachers with 1-7 years of teaching experience were more likely to participate in professional development opportunities by a statistically significant margin. Other teacher demographic traits such as music discipline taught (general, choral, instrumental), school level taught (elementary or secondary), and degrees earned were also examined, but none were found to have a statistically significant impact on likelihood for professional development participation.

Qualitative investigations of music teacher professional development perceptions. Conway (2001) conducted a phenomenology that examined the

experiences of seven first-year music teachers with district-induction programs in the state of Michigan. At the time of the investigation, the state of Michigan required districts to provide induction programs consisting of at least a mentor and "intensive professional development" for the first three years of a teacher's career. The purpose of this study was to find how music teachers described their induction program experiences, and to uncover the extent to which participant teachers viewed the induction programs as useful. Data sources included two interviews with each of the seven participants, an interview with each participant's mentor, interview with each participant's administrator, and three focus group interviews with all participant music teachers. In addition, Conway also observed each participant teaching twice throughout the course of the year-long investigation and collected artifacts such as weekly journals kept by participants and teacher induction program materials.

Conway found that only four of the seven teachers had the opportunity to participate in an induction program with a mentor and corresponding professional development. Three of the participants taught in districts where the administrators noted that there simply was not funding available to provide for induction programs, putting their district out of compliance with the state requirements. For each of these three cases, the participants participated in general professional development in-services for all district teachers. Of the four teachers who did have the opportunity to participate in an induction program, two noted that work obligations, such as marching band rehearsal or community music classes, prevented them from fully participating. These conflicts did not appear to change the participants' perceptions of the induction programs, as all four

music teachers who had taken part in induction programs reported being dissatisfied with their experiences. Conway noted that while the topics of these induction programs appeared to be pertinent to beginning teachers (e.g. classroom management), participants did not view them as valuable. This may have been due to the fact that most teachers had to miss several sessions due to scheduling conflicts with their teaching duties or that the meeting times of events were not clearly communicated by administrators to teachers moving between buildings.

In a separate investigation, Conway (2008) interviewed experienced music teachers (N = 19) to understand their perceptions of professional development in a qualitative phenomenological study. The research questions centered on the perceptions of music teachers regarding the most and least valuable professional development experiences and if perceptions on professional development evolve over time in the profession. Participants were purposefully sampled, and extended unstructured interviews with each individual participant were conducted. From the analysis Conway reported that informal interactions with other music teachers were found to be the most powerful form of professional development. All of the participants also voiced concerns about the applicability and usefulness of district sponsored and/or mandated non-music specific professional development programs. To answer the second research question about whether perceptions in professional development changed throughout teachers' careers, Conway reported three themes. Teachers reported becoming more proactive in their professional development, viewing their own students and student teachers as a

learning source for their own professional development, and developing a broader understanding of what it means to be a teacher as they advanced in their careers.

Summary of Research on Music Teachers' Professional Development Preferences and Perceptions. While research indicates that music teachers generally have access to professional development opportunities, music teachers do not view all professional development opportunities as equally worthwhile. Music teachers often find professional development opportunities offered by graduate study in music or attending conferences and workshops to be valuable. Research evidence also suggests that music teachers find conversations with their colleagues to be an effective form of professional development. Furthermore, music teachers often find professional development opportunities offered at their own school to have little applicability to their own classrooms. Additional barriers, such as being the only music teacher in the school and lack of funding or administrative support to attend professional development opportunities can impede music teachers' professional development.

While these studies offer some illumination to the kinds of opportunities and topics music teachers prefer for professional development, there are limitations to the study designs. One such limitation particular to survey research in professional development is that general categorization of different types of activities can bias the findings. For example, while researchers asked participants about local professional development opportunities offered by schools, survey items did not differentiate between different forms of local professional development or the focus of these activities. Some teachers may have access to music-specific professional development offered by their

school or district and others do not. If these two types of activities are not distinguished, it is impossible to determine whether music educators' attitudes towards school-offered professional development is due to the content focus or just the quality of the programs. It is also worth noting that teacher preferences do not necessarily equate to professional development effectiveness. Though these studies identify the types of professional development teachers prefer, they do not collect data that reveal the effects of various professional development experiences on teachers' knowledge or classroom practices.

Research on the Impact of Professional Development Programs' on Music Teachers

In their literature reviews, both Bauer (2007) and Conway & Edgar (2014) noted that multiple studies have focused exclusively on teacher perceptions and experiences with professional development. Comparatively, there have been few investigations into how professional development experiences affect music teachers and their students. Investigations by Conway, Eros, and Stanley (2009) and Junda (1994) examined outcomes from a graduate course sequence on music teacher knowledge and classroom practices. Similar investigations into the impacts of participation in workshops were conducted by Bauer et al. (2003) and Reese, Repp, Meltzer, and Burrack (2002). Within the following section I will discuss these studies in greater detail.

In an investigation into the effects of a professional development course, Junda (1994) examined the experiences of twelve elementary music educators who participated in a two-semester graduate course sequence on Kodály methods. The coursework was designed to develop musicianship, pedagogical skills, and knowledge of repertoire in the elementary music educators. Qualitative data collected for this study included video

recordings of participants' classroom instruction and student performances, interviews with individuals and focus groups, and five observations of each participant's teaching over the course of the investigation. Analysis of the qualitative data suggested that educator's musicality and knowledge of sight-reading pedagogy had been improved from the coursework, and this program resulted in positive changes to student attitudes and skills. In addition, two questionnaires given at the midpoint and end of the study were designed to gauge teachers' perceptions of the program. This evidence suggested that teachers' had consistently positive experiences with the course.

Reese et al. (2002) documented the development and evaluation of a website used for professional development in music education technology. The site was designed to present examples of successful uses of technology in music instruction to inform instruction of practicing teachers. To evaluate the effectiveness of the website, the researchers recruited 45 practicing music teachers into three groups for the quasi-experiment. One group used the website and was simultaneously enrolled in a music technology course, while another used the website but did not receive technology instruction. The third group acted as a control group and did not use the site. Data was collected by pre- and posttests of knowledge, attitude pre- and post-surveys, and follow-up interviews with selected participants. Though both groups using the website improved their knowledge and attitude scores between the pretest and posttest, these gains were not statistically significant. The researchers noted that personal interactions and structured instruction may be necessary to motivate many teachers to utilize web resources for professional development in the context of demanding workloads and other priorities.

The researchers concluded that although websites for professional development may be necessary for music teachers working in remote areas, they are probably not sufficient as lone sources of professional development.

Bauer et al. (2003) conducted an investigation into the impacts of participation in a week-long workshop on incorporating technology into the music classroom. They developed a questionnaire about music teachers' demographics, knowledge of music technology, and the frequency of their use of technology in their teaching. Three versions of this questionnaire were administered to participants at three separate phases in the investigation: prior to the workshop, at the conclusion of the workshop, and 9-10 months after the workshop. Of the 203 participants in the workshop, 63 completed the final questionnaire and were included in the analysis. Using the three questionnaires as a pretest, posttest, and follow-up, Bauer et al. conducted a repeated-measures ANOVA which revealed statistically significant differences in participants' pretest and posttest, pretest and follow-up, and posttest and follow-up scores for knowledge of technology and use of technology in instruction. Scores increased significantly between the pretest and posttest and dipped between the posttest and follow-up. However, the follow-up scores were still significantly higher than the pretest scores. From these findings Bauer et al. (2003) concluded that there was evidence that workshops positively affected teachers' knowledge and use of technology in instruction even after a significant amount of time had pasted.

Another study investigating the impacts of graduate coursework on music educator knowledge and teaching was conducted by Conway et al. (2009). Using data

collected from online surveys, interviews, and participant journal entries, the researchers examined the perceptions of nine music educators who had completed a summer Master of Music program. Participants reported that the knowledge of research, philosophy, and psychology as well as opportunities to develop their own musicianship were beneficial to their own personal development. Although the respondents in the study described graduate coursework as beneficial to their teaching, they were not readily able to articulate exactly how they used this new knowledge to change their own teaching practices.

Investigations of Professional Learning Communities of Music Teachers

Conway and Edgar (2014) stated that "one-shot and isolated PD [professional development] experiences are the most common for music teachers" (p. 14). Though some research indicates that music teachers find music-specific conferences, workshops, and graduate study to be relevant and meaningful (Bauer, 2007; Burkett, 2011; Bush, 2007; Conway et al., 2009), scholars question the effectiveness of isolated professional development experiences (Darling-Hammond et al., 2009; Hookey, 2002; Stanley, 2011). Barrett (2006), Eros (2011), Stanley (2011), and Stanley et al. (2014) have called for music educators to embrace professional development activities that promote continuous examination and evaluation of practice. In K-12 education at large, the PLC has become an increasingly popular form of ongoing professional development (DuFour, 2004; Fullan, 2007). As PLCs were designed as ongoing professional development (DuFour et al., 2008), the application of PLCs in K-12 music education has been investigated and

promoted by researchers in the profession (Gruenhagen, 2007; Kastner, 2014; Stanley, 2011).

These investigations of music teacher PLCs found that participants reported positive experiences, emotional support, and gaining knowledge as a result of working with colleagues in a music teacher PLC (Bell-Robertson, 2014; Gruenhagen, 2007; Kastner, 2014; Pelletier, 2013; Sindberg, 2016; Stanley, 2012; Stanley et al., 2014). These examinations of music teacher PLCs have been primarily case studies, which may limit the generalizability of their conclusions. In aggregate, the findings of these investigations may provide a more nuanced representation of how participation in a PLC can affect music teachers.

In one study, Gruenhagen (2007) facilitated a monthly PLC meeting of early childhood music educators as part of an investigation into how PLCs affect music teachers. The purpose of this study was to generate an understanding of the topics of early childhood music teacher collaboration and the extent these conversations could function as a form of professional development. Gruenhagen conducted observations and transcripts of all PLC meetings and interviewed five core participants, of the PLC group. Participants in this study ranged in their years of teaching experience, and some taught elementary general music while others taught Pre-K music classes. There was no predetermined structure or framework to guide the PLC, the direction of conversation, critique, and reflection came organically from conversations of the group.

Key findings from this investigation were that early childhood music teachers were most interested in how children became musical, what factors influenced children's

musical development, when it was developmentally appropriate to teach musical skills, and how to sequence instruction. Early conversations of the group were mostly informal, and were described by Gruenhagen as story-sharing experiences that fostered a sense of community. Once participants established this community, their conversations turned towards critical examinations of curriculum and activities. Some teachers reported becoming more direct in their lesson planning to align their teaching with the developmentally appropriate needs of their students as a result of participating in the PLC. While Gruenhagen noted that the PLC model had indeed led teachers to new knowledge and to change their practices, this was not the case for all PLC members. Several participants of the original group of 12 would later drop out of the study, and Gruenhagen noted that the remaining five participants in the study were already comfortable talking about their classroom practices at the start of the study. It would seem that the PLC only benefited the teaching of those committed to model.

In a case study of three elementary music teachers, Stanley (2012) also found that the conversations between PLC members were primarily teacher-centered at the beginning of the study, but shifted towards a more student-centered focus by the end of the study. For her investigation, Stanley led and investigated a collaborative study group. The PLC in this case study was specifically designed by the investigator to promote student collaboration in music classes. At each of their seven weekly 2-hour meetings, one member would share a video of their teaching, which would then guide a critical discussion.

Teacher participants found the work to be immediately relevant to their teaching and reported their pedagogical knowledge and sense of community were enhanced by their experience. One teacher remarked that the practice of reflective teaching in a group setting had led her to become more reflective about her own teaching practice and aware of the learning environment she creates. Another participant felt that participation in the study group changed her outlook on collaboration, as it was the first time she had a serious discussion about music education with knowledgeable peers in a professional development setting. Stanley noted that sharing teaching videos helped deprivatize teaching practices and led to rich discussions of teaching with multiple individuals able to make pertinent and relevant observations about what happened in the learning environment. While the findings from this study were mostly positive, Stanley commented that the group avoided any outward conflict, and she worried this might have indicated that the group shied away from potentially contentious topics.

In a 2014 case study, Bell-Robertson investigated the perceptions of 11 novice music educators in their first three years in an online support group for beginning music teacher. This qualitative investigation sought to examine specific issues of emotional support and development of a community of practice over the course of an entire academic year. Bell-Robertson found that participants in her study used the wikispace of the online community to gain assurances, vent frustrations, and provide support for each other. She also noted that participants rarely discussed classroom practices. In her conclusion, Bell-Robertson argued that for beginning teachers, the emotional support

offered by an online community itself was of value, and possibly more important to novice teachers than discussions of teaching practices.

Kastner (2014) investigated a PLC of four elementary general and choral music teachers who were working to incorporate informal music pedagogy in the classroom. As the groups' faciliator, Kastner led participants in reviewing literature on informal music practices and discussing ways to implement informal music learning strategies and experiences into their classrooms. Through interviews with participants, observations of the PLC meetings, and observations of participants' teaching, Kastner found that the teachers were willing to experiment with informal music learning activities in their classrooms. These experimentations included modifying their current practices to incorporate informal music learning and adapting strategies and activities encountered in research to their class setting. In addition, participants commented that they found value in incorporating informal music learning practices into their classrooms. With regards to the learning community, participants reported the supportive community of colleagues gave them reassurances to change their classroom practices.

Sindberg (2016) conducted another investigation into a music teacher PLC focused on implementing a common teaching framework. For this study, Sindberg led a PLC of ensemble music teachers who wanted to implement the Comprehensive Musicianship Through Performance (CMP) model into their classrooms. Over a two-year period, Sindberg facilitated the PLC while collecting data from observations of PLC meetings and participants' classes, interviews with participants, surveys, and artifacts. Sindberg presented four themes in the analysis. First, the teachers in this study described

shifting their teaching towards the CMP model as an ongoing process. Second, the data indicated that participants' PLC had collegial culture, and the teachers enjoyed collaborating and sharing ideas with their fellow music teachers. Third, the PLC provided an opportunity for participants to express their frustrations and worries about implementing the CMP model and their other concerns. Finally, the process of incorporating CMP into classroom practices proved to be long and uneven but one that the teachers felt was worth undertaking.

While the researchers of music teacher PLCs above investigated teachers' experiences within a single PLC, Pelletier (2013) interviewed 24 mid-career elementary general music teachers to investigate the perceived impacts of participating in learning communities. Using pre-interview surveys, interviews, and classroom observations, Pelletier examined how teachers described their learning communities, what meaningful experiences they had from participating in learning communities, and how learning community participation impacted their teaching. Findings from this study indicated that the teachers were part of multiple learning communities, such as learning communities of Orff-Schulwerk and Kodály music educators. The teachers shared that participation in multiple learning communities allowed them to pursue various interests. Participants' felt that their involvement in these communities provided meaningful, sustained professional development and led to improved class outcomes, such as their own teaching ability and student musicality. Pelletier also concluded that participation in a learning community created a sense of renewal in teachers that kept them engaged in their learning communities.

Summary of literature on PLCs of music teachers. Investigations into the impacts of PLC participation on music educators and their teaching has found PLC experiences to be a beneficial form of professional development. Researchers such as Bell-Robertson (2014) and Sindberg (2016) concluded that being part of a community of music teachers provides emotional support important to teachers. These studies also indicated that music teachers find the opportunity to share and develop teaching ideas with their colleagues valuable, and these experiences lead to improved practices in the classroom. Studies such as those by Kastner (2014) and Sindberg (2016) also found that participation in PLCs helped teachers to implement new curricular frameworks and theories into their classrooms, though the process of changing teaching practices could be slow and challenging.

Though the studies discussed in the section above identified several positive impacts of PLC membership on music teachers, there are several limitations to these studies. The first of these limitations is that the primary investigator for all in-depth examinations of PLCs were conducted by an individual also serving as the PLC facilitator (Bell-Robertson, 2014; Gruenhagen, 2007; Kastner, 2014; Sindberg, 2016; Stanley, 2012). Another limitation of these studies is that with the exception of Pelletier (2013), all were conducted on PLCs that were to an extent initiated by the researcher. As PLCs were intended to promote continuous professional development in teachers (DuFour et al., 2008), it is also interesting that many of these investigations only examined the outcomes of PLC participation in the initial stages of the group. As Grossman et al. (2000) concluded, it can take time for a culture conducive to professional

learning to develop in a PLC. Though Sindberg (2016) collected data over a two-year period and Gruenhagen (2007) collected data over a single year, the rest of the studies discussed in the section above only examined PLCs within the first six months of their existence. Based on the model of Grossman et al. (2000), these PLCs may still have been developing and therefore may not be representative of more established PLCs.

Chapter Summary

In this chapter I presented an overview of the literature on professional development and professional learning communities. I discussed the role of professional development in education and how it has been recognized as an important component of improving K-12 teaching practices (Ball & Cohen, 1999; Darling-Hammond et al. 2009). Investigations into professional development practices by researchers such as Garet et al. (2001) and Gersten et al. (2010) have led to the development of theoretical models linking professional development to teacher knowledge, teacher practices, and student learning. From the body of research on professional development effectiveness, researchers have identified factors of professional development such as duration, continuity, content focus, active learning, and relevance to teacher and student outcomes.

Within this chapter I also discussed the historical context and development of the professional learning community (PLC) model for professional development as described by DuFour and Eaker (1998). This was followed by an overview and comparison of the descriptions of PLCs in the literature such as early definitions by Newmann et al. (1996) and DuFour and Eaker (1998) to more recent clarifications by Eaker et al. (2002) and

DuFour (2004). A review of literature on the impacts of PLCs on teachers and students concluded the first half of this chapter.

In the second half of this chapter I discussed research specific to music teacher professional development. I began with an overview of the unique challenges faced by music teachers such as performance, recruiting, and traveling expectations (Barrett, 2006; Bauer, 2007). This was followed by a review of research on music teacher perceptions of professional development practices from both national and regional surveys. These findings indicate that music teachers prefer professional development activities specific to music teaching, but music teachers more commonly participate in professional development not specific to music at their own schools. The final section of the chapter reviewed the research on music teacher PLCs. While there is evidence that music teachers may benefit from participating in PLCs, the studies reviewed in this chapter examined PLCs led by the researcher. In chapter four I discuss the impacts of participating in a music teacher led PLC on music teachers and their classroom practices.

CHAPTER 3

METHOD

Introduction

This chapter outlines the methods used to conduct this study. The purpose of this collective case study was to investigate how involvement in an existing autonomous Professional Learning Community (PLC) affected K-12 music teachers and their classroom practices. The research questions were:

1. What knowledge and/or supports do teachers gain from their PLC experiences?
2. What organizational supports and leadership are in place for these PLCs and how do they relate to teacher and classroom outcomes?
3. How do teachers use knowledge and/or supports from their PLC in their own teaching?

This chapter begins with an overview of qualitative case study research design and use in music education research. Next, the case study design of this investigation and the theoretical positioning of the researcher are described. Finally, procedures for participant selection, data collection, and data analysis is presented.

Design

A case study method "allows investigators to retain the holistic and meaningful characteristics of real-life events" (Yin, 2009, p. 4). Because there is reason to believe that the effects of a professional development activity are not only dependent on the activity's design, but the experiences and perceptions of the teachers involved, "the boundaries between phenomenon and context are not clear" (Yin, 2009, p. 18). Case

study designs are best suited to investigate complex and intertwined social phenomenon (Creswell, 2013; Merriam, 2009; Yin, 2009). Another feature of case study research is that it allows for the use of theoretical frameworks and models to inform the design, data collection, and analysis of the investigation to help answer the research questions, as opposed to ethnographic and grounded theory designs that do not adopt theoretical propositions prior to data collection (Yin, 2009). Like other qualitative methods, a case study design is also well suited to allow for the investigation of potential variables and influences that arise during the course of study (Creswell, 2013; Merriam, 2009). Since this investigation is focused on a relatively unexplored phenomenon, the reflexivity of the case study design is an asset to attend to issues raised by participants in the field.

The defining feature of case study research is the delimitation to the *principle object* or *principle phenomenon* being studied (Stake, 2005; Merriam, 2009). For this study, the principal object being studied is an autonomous PLC of music teachers. The boundaries of the case are the autonomous PLC, the teachers involved, and the classes impacted. Among the various types of case study described by Stake (2005), this investigation is an *instrumental case study.* Unlike an *intrinsic case study,* which is focused on the peculiarities of the individual case itself, an *instrumental case study* uses an individual case to better understand a larger phenomenon. As Stake notes, the particularities of the case itself are secondary to the understanding of the larger issue (p. 445). The intention of this investigation was to explore the affects of a single school-situated PLC to inform understandings about this particular type of professional development.

Any study of the professional development of K-12 educators is situated within a unique context. The personal background of the teachers, expectations and realities of the community, history of the school, and type of activities conducted are some of the factors affecting professional development experiences. However, differences between people and places, which may be nuanced to extreme, ensure that there is not a uniform experience or impact from any single aspect of professional development. Understanding the contexts of the teachers and schools are essential to understanding affects of professional development in any investigation. Because of these complicating factors, case study designs are appropriate methods to investigate professional development in K-12 education.

There is a significant precedent in music education research to employ case study designs to investigate the professional development of music teachers. In their review of the literature, Conway and Edgar (2014) noted that case study designs have been a preferred method to examine both perceptions and effects of professional development experiences. Common professional development opportunities afforded to music teachers, such as workshops, seminars, graduate courses, and collaborative communities, create relatively clear boundaries to establish a case (Conway & Edgar, 2014; Hookey, 2002).

Participant Selection

Previous researchers (Kastner, 2014; Sindberg, 2016; Stanley, 2014) examined the impacts of PLC participation on music teachers, but in these investigations the PLCs were facilitated and led by the primary investigator. Because the PLC model was

designed to have internal rather than external direction (DuFour et al., 2008), an investigation on the effects of participation in an autonomous PLC on music teachers may provide insight into the benefits and challenges of PLC participation encountered by K-12 music teachers in the field. Thus, the selection of an autonomous PLC was necessary to differentiate this study from previous efforts, and to directly study how a participant-led PLC model impacted music educators.

To locate potential participants for this study I employed purposeful snowball sampling (Creswell, 2013; Morgan, 2008). Snowball sampling is a useful and appropriate technique when there is no source for locating potential members (Morgan, 2008). Since there was no database or list of which schools in the geographic area of the study used PLCs for staff professional development, nor any such source describing PLCs in the geographic area of the study, the use of snowball sampling was deemed appropriate by the researcher. Participant selection was limited to a 60-mile geographic radius around a Midwestern metropolitan area due to the physical limitations I had for travel to conduct interviews and observations.

To find potential participants, I contacted K-12 music teachers in the area who I either knew belonged to a PLC or were known to have colleagues in other schools that potentially had PLCs of music teachers. Potential participants in the study were then contacted and asked to complete a brief questionnaire about the status of PLCs in their school. Questions included if they were a member of a PLC, the membership of the PLC in terms of subject area and size, the time and frequency of PLC meetings, and if they

knew of any other music teachers in other schools who were members of a school or district-based music teacher PLC.

Criterion used for selection into the study included the participant PLC must have been in place for at least one year (to allow for group norms to be established), and must have no outside guidance or leadership from a non-PLC member teacher. Further selection criterion included the ability of the researcher to obtain consent from all teachers in the PLC to conduct interviews with each of the music teacher participants and observe the regular PLC meetings. An additional criterion was that the PLC met at least biweekly. This was based on the research evidence that more sustained efforts in professional development would have more noticeable results (Garet et al., 2001; Darling-Hammond et al., 2009) and that it would allow for more opportunities to collect data through observation. From the snowball sampling process, I found a PLC of three middle school band teachers whose PLC met all criterion for selection and were willing to participate in this study. These three participants taught in two different middle schools within the same school district, which will be described in the following section.

Setting

Loon Lake Public Schools. Loon Lake Public Schools serve the suburban municipality of Loon Lake in a major Midwestern metropolitan area. The school district serves 10,000 students in five elementary schools, two middle schools, and one high school. Using data collected by the state department of education from 2016-2017 academic year data, the Loon Lake district student population is not reflective of the general student population found in the state (Minnesota Department of Education,

2016a). In Loon Lake schools, only 6.8% of students qualify for free and reduced priced lunch, compared to the state average of 38.1%. In addition, 1.7% of students in Loon Lake schools are enrolled in English Language Learner programs, which is less than the state average of 8.3% of students enrolled in such programs. With regards to the student population in special education programs, Loon Lake is closer to the state average, with 10.8% of students in the school district receiving such services that is not far from the statewide figure of 15.1%. Loon Lake Public Schools serve a less racially diverse student community compared to the state. In Loon Lake schools 85.4% of students are white, 5.2% are Asian, 3.6% Hispanic/Latino, 2.5% black, and 3.4% other. In Minnesota, 67.5% of students are white, 6.7% are Asian, 9.0% Hispanic/Latino, 10.7% black, and 6.1% other. Compared to the statewide student population, Loon Lake serves a less diverse and generally more affluent demographic than most of their peer school districts.

One important aspect of the school district that directly impacted this study is that Loon Lake Public Schools participate in a statewide program known as *Q Comp* and have done so since the 2006-2007 school year. By following guidelines set by the Minnesota Department of Education for teacher professional development, teacher evaluation, and merit pay, the school district receives an additional block of funding from the state (Minnesota Department of Education, 2016b). The Loon Lakes Public Schools administration organized a committee of teacher and administrative representatives to oversee the school district's compliance with requirements of Q Comp participation, including PLCs, teacher observations and evaluations, and performance-based compensation.

The music program in the school district includes general music in grades K-8, band in grades 5-12, choir in grades 5-12, and orchestra in grades 5-12. A full-year music course is required for all students in grades K-8. High school students in the district are required to take at least two semester-long classes in the arts, which may include music. Beginning in 5th grade, students are allowed to choose between general music, choir, band, and orchestra for their music requirement. The music teachers in the district are split into five individual PLCs. There is an elementary general music PLC, an elementary band PLC, an elementary and middle school orchestra PLC, a middle school band PLC, a middle and high school choral PLC, and a high school instrumental PLC. This investigation focused on the middle school band PLC, which included three music educators who taught in two separate buildings, North Middle School and South Middle School.

North Middle School. Much like the district, North Middle School is located in a generally affluent neighborhood. As Andrew, a teacher in the building, described, "It is a more affluent building. I don't think the affluence is quite as overt as a place like [Silver Lake], but this is a more affluent place, though there are a few section eight housing developments that are within the district" (personal communication, November 16, 2016). While the two middle schools in the district are similar, even sharing the same floor plan, North Middle School serves about 200 more students than South Middle School. Andrew attributed that difference to open enrollment. As he described, "We have a lot of open enrollment. I forget if it's at the 50% mark or not, but we're around that area of students who come in from outside the district. Much of those actually come from

neighboring districts" (Andrew, personal communication, November 16, 2016). North Middle School is closer to the center of the metropolitan area and more conveniently located by a major highway, so it may be that those factors contribute to this difference between the schools.

The music program at North Middle School employs six music teachers. The two band teachers, Andrew and Carol, are both full-time, as are the two choir teachers. Another choral music teacher primarily assigned to the high school also comes into the building for a single class. In addition, there is an itinerant orchestra teacher whose assignment is split between North Middle School and two elementary schools nearby. All of the full time teachers teach sections of the general music classes for students in sixth, seventh, and eighth grade. Students in both the band and the orchestra in grades 6 and 7 are also assigned to small group lessons, though the scheduling of these lessons is irregular and based on teacher's availability. These lessons had historically been scheduled so that each small group had one lesson each week. More recent reductions in music staffing limited weekly lessons to students in only a few classes, and the rest only receive group lessons when teachers' planning periods allowed.

South Middle School. South Middle School has a mirrored floor plan of North Middle School and in most regards is demographically similar, though its student body is smaller. While North Middle School has two full-time band teachers who each teach one grade level of general music, South Middle School employs only one full time band teacher and shares another band teacher with the high school. One of the issues facing this program is the inconsistency of their scheduling due to sharing a band teacher, Eric,

with another building. As the only full-time band teacher in the building, Betty, described:

> My role changes every year here, but currently I'm teaching sixth grade and eighth grade band, and then I do seventh grade lessons. Last year I did sixth, seventh, and eighth grade band. My job here changes based on—we have another part-time teacher who teaches at the high school, so depending on how his schedule falls, that's what determines what I teach. (Betty, personal communication, December 6, 2016)

The scheduling of the two band teachers at South Middle School also impacted the small group band lessons. Since there were only two band teachers in the school for either the morning or afternoon depending on Eric's schedule at the high school, only students who happened to have band when Eric was scheduled to be at South Middle School had an opportunity to participate in small group lessons.

While North Middle School has regular meetings or office hour times scheduled for all faculty on Tuesdays, Wednesdays, and Thursday mornings before school, South Middle School does not. This allows South Middle School to schedule more morning groups, such as jazz band and woodwind ensemble, than North Middle School. Betty shared that in previous years South Middle School had different student performing groups meeting all five days of the week, but she currently reserved two mornings for office hours for students to come in help (personal communication, December 13, 2016).

Another unique feature of South Middle School music program was a full-time general music teacher employed in addition to the band, choir, and orchestra instructors.

According to Betty, this put an additional strain on the program. While the general music teacher provided students with an "excellent experience," Betty worried about the competition for students between the various music programs at South Middle School (Betty, personal communication, December 13, 2016). This created a tension within the music department at South Middle School over student retention.

Participants

Andrew. The newest member of the PLC, Andrew was in his second year at North Middle School. He was in his ninth year of music teaching, and the past seven years were within the Loon Lake School District. Before coming to North Middle School, Andrew taught elementary band and orchestra for five years within the Loon Lake School District. Prior to moving to Loon Lake, Andrew taught middle school band for a year before his position was eliminated due to statewide budget cuts. He then spent a year overseas teaching music and English to middle school and high school students. Upon his return to the United States he was hired by Loon Lake Public Schools. His first year in the district was in a half-time position teaching beginning band and orchestra, but he moved to full-time status the following year. Once employed full-time, Andrew taught both elementary band and orchestra in multiple buildings for four years. When Betty left to take a position at South Middle School, Andrew applied for her position at North Middle School. For the past two years, he has taught sections of sixth grade band, seventh grade band, and eighth grade classroom music, as well as some sixth grade band lessons at North Middle School.

Andrew held an undergraduate degree in music education and was in the process of earning a master's degree in music education at a local university. His academic interests in teaching and learning were evident from the multiple shelves of pedagogy texts above his desk. In our initial interview he shared:

> I have a lot of books here on the back that have to do with pedagogy and learning, and I probably read about four-five, you know, books about band, or education, or pedagogy a year, so that is an interest of mine to continue to grow. (Andrew, personal communication, November 16, 2016)

In addition to his academic interests and experiences, Andrew also was the only participant to have worked with other PLCs prior to joining the middle school band PLC. This gave him a unique perspective as he could compare the middle school PLC to the elementary band and orchestra PLCs in which he had previously participated.

Like all the members of the PLC, Andrew was amicable with students, his coworkers, and myself. When I met him in his office for our interviews I typically found Andrew talking to students who had come to the band room after school. His rather meticulous attention to detail of best practices in discussing student learning and assessment is sharply contrasted by his relaxed approach in the classroom and PLC:

> I somewhat like to let the rules evolve naturally, and I know I'm a weird person on this. The rules don't change so much between the classes, they learn my expectations, I learn how they are, and things naturally develop...I'm also about trying to develop morals and ethics in kids, and that involves giving them opportunity to fail, as opposed to being really

> strict about what they do. (Andrew, personal communication, December 12, 2016)

In his teaching, Andrew frequently mentioned developing the musical independence of band students. One of the challenges he sought to overcome in his classrooms is what he described as, "learned dependence." In his sixth grade band classes, he found that his students would want him to tell them what to do, rather than apply their own knowledge. He described his typical class exchanges as: "They [students] kept asking me, 'how's this go? What do I do here?' And I ask, 'well, do you know how to play eighth notes?'—'Yeah.'—'Okay, well, there are eighth notes there'" (Andrew, personal communication, December 12, 2016).

Our discussions revealed that Andrew took great care to identify the musical knowledge and skills he wanted students to know and then give students opportunities to apply that knowledge. For example, Andrew described identifying concepts encountered in the *Standard of Excellence* method book the students used and finding repertoire that gave students the opportunity to apply those skills (Andrew, personal communication, December 12, 2016). He described his philosophy of music education as:

> My goal for music education is to enrich the internal musical world of my students…I think that if a student goes through a music program, and their taste and understanding of music are unchanged from the beginning to the end, then there's not really been an impact on their music education. There may have been plenty of impact on their technical ability, but it's

not affected any of their understanding of music. (Andrew, personal communication, December 12, 2016)

Betty. The most experienced teacher in the PLC, Betty has taught band for 22 years. She started her career teaching eighth and ninth grade band in a rural community for a year before teaching at Loon Lake Public Schools. Most of her career was spent teaching at North Middle School, though Betty did teach for a couple of years at the elementary level. While she was the longest tenured teacher in the PLC, she moved to part-time status for several years to raise her family before returning to full-time status. It was during the years she worked part-time that Loon Lake Public Schools implemented PLCs across the district. After working at North Middle School for many years, Betty transferred to South Middle School to be closer to home in the 2015-2016 school year. Having worked with the administration at each building gave her a unique insight towards some of the differences between the two buildings, and her experiences as a part-time teacher involved with PLCs provided an additional perspective of challenges in the professional development model.

At South Middle School, Betty taught the sixth grade and eighth grade bands, as well as seventh grade band lessons. Unlike her colleagues in the PLC, Betty did not teach a general music class. Though she had developed her approach to teaching, using some of the same repertoire from year to year, she still enjoyed exploring new repertoire and teaching. She shared her goal as a music teacher:

To have them love music, to want to come to my class, to want to be in the class, and to, basically, someday have their kids be in music. Whether it's

> choir, band, orchestra, or just see the importance of music. (Betty, personal communication, December 13, 2016)

Having a child who attended South Middle School, Betty also brought the perspective of a parent to the PLC. She was particularly sensitive to how much is asked of students and expressed the most concern about the expectations of students practicing their instruments within the entire school curriculum.

Compared to her colleagues, she voiced more concerns about students leaving band for other music classes that were perceived as having less rigor and homework expectations. However, this concern may also have been due to the fact that she faced more pressure from school administrators about keeping up student enrollment in the band program than her colleagues (field notes, January 23, 2016). Despite these concerns about keeping students in band, Betty's expectations for students in her class were comparable, if not more rigorous, than her colleagues'. She expected students to complete at least 12 individual assignments per quarter, which was the most of all teachers in the PLC (field notes, January 23, 2016). Though she had concerns about students dropping band for other music classes with less rigorous classwork and homework, she held a high standard for grading and would not budge for sake of placating students or parents (field notes, January 23, 2016).

Carol. Carol has been involved with the middle school PLC the longest, having taught at North Middle School since before Loon Lake Public Schools implemented PLCs school wide. A veteran teacher of 19 years, Carol was a flautist in college, though she was also involved in choir. Certified to teach 5-12 instrumental and vocal music, her

first position was at a private school teaching elementary general music, which prompted her to seek and complete the additional licensure for K-5 general music. Carol was the only teacher in the PLC with high school teaching experience. While she spoke glowingly about the experience and working with students, she admits that the grueling schedule was not missed. In her words:

> At the time, you just think, 'I have to teach, I just love this group, and I love this age.' And then you just think you can't go without it, but then when you do, you're like, "Oh." You know? It's like, 'what was I doing?' Just all that time, you know? (Carol, personal communication, December 20, 2016)

Moving to the middle school provided a less hectic schedule for her, which worked better for her family, particularly having young children. She came to Long Lake Schools with her husband, who is a choral teacher in the district, in 2005.

At North Middle School, Carol teaches part of seventh grade band, all of eighth grade band, seventh grade general music, and sixth grade orchestra lessons. Unlike her colleagues, Carol taught elementary and middle level general music earlier in her career and had significant music teaching experience outside of band. Carol was the most enthusiastic member of the PLC about teaching different music classes. As she described, "I like variety. I can't even image how a seventh grade teacher, like an English teacher, can do five classes of the exact same thing. It's, like, I would just go crazy" (Carol, personal communication, December 20, 2016).

Like her colleagues, Carol valued students' lifelong interests in music. When asked about her philosophy of music teaching, Carol stated one of her goals was "for the kids to love music, to want to continue to make it a lifelong—not necessarily something they have to play their instrument—I mean, it'd be great if they did, but just have that lifelong appreciation" (Carol, personal communication, January 18, 2017). In addition to providing students with experiences that translated into lifelong music making and appreciation, Carol also expressed a belief in the importance of the affective aspect of music learning. As she expanded on her teaching philosophy, she commented, "It's the affective part of it that I think keep kids involved" (Carol, personal communication, January 18, 2017).

Carol also wanted her band class to be open to all types of students. Though she wanted to prepare students to participate in high school band, she shared that she had concerns about students quitting the program because they didn't play at the same level as their peers. Providing a supportive classroom for students at various ability levels was one of Carol's goals. In an interview she described her views:

> There are kids who really struggle, but they like being in band. You have to find a way to balance, so that they don't end up with a really bad grade just because they can't get this rhythm or can't get these notes, you know? You have to balance out if you need to modify so they can still do well, but even those kids, if they're behind or they struggle, can still go on to high school and do just fine. You don't want to kill that in them in middle school. You don't want them to be like, 'aw, I'm really bad, so I'm just

going to quit.' You want them to keep trying. (Carol, personal communication, January 18, 2017)

Data Collection

All three members of the Loon Lake Public Schools middle school band PLC participated in the study. Each individual was interviewed three times over the course of the study, with an initial semi-structured interview taking place at the beginning of the study, and two follow-up interviews arranged afterwards at the convenience of the participant. All interviews were audio-recorded and transcribed by the interviewer. Each interview ranged from 30 to 55 minutes long. In addition, the researcher conducted three observations of the regular meetings of the participants' biweekly PLC meetings. These on-site meeting observations were conducted from November 2016 through January 2017. Audio recordings were taken at each PLC meeting, but were interrupted when non-participants in the study would enter the room. This happened between one to three times in each of the three PLC meetings I observed. In addition, during the third PLC meeting observation, the participants requested the audio recording be stopped twice. In both instances the conversations were about individual students, parents, and/or administrators. Field notes were taken during these breaks from the audio recording, but field notes were asked to summarize the topic while avoiding any identifying information.

Observations of select participant's classroom teaching were conducted after permissions by both participant and the school administration were granted. A teaching observation of each participant for a single 50-minute class was conducted in January and February of 2017 and took place after the PLC meeting observations and interviews. To

comply with participant and site permissions, these observations only included field notes taken by the researcher.

Multiple types of data were collected over the course of this investigation, including interview transcripts, observation field notes, and additional artifacts. Artifacts included teacher-created classroom materials, curriculum, and materials used for student assessment collected from participants and copied for analysis. Copies of previous PLC meeting minutes and other documents the PLC's work from previous years were also collected for this investigation. A data planning matrix is presented below (Figure 3) to illustrate the relationship between the data sources and the research questions.

What Do I Want to Know?	Why I Want to Know This?	What kind of data will answer this question?
What knowledge and/or supports do teachers gain from their PLC experiences?	To understand what learning, mentoring, and/or support is provided by PLC experiences.	Participant interviews with teachers. Observations of PLC meetings. Artifacts of teacher resources and lesson plans.
What kinds of organizational support and leadership are in place, and how do they relate to teachers and their class practices?	To understand how PLCs can be created, sustained, and improved to support music teachers.	Participant interviews with teachers. Observations of PLC meetings.
How do teachers use knowledge and/or supports from PLCs in their classroom?	To discover how PLCs can affect teaching.	Participant interviews with teachers. Observations of participants' teaching. Artifacts of teacher lesson plans, curriculum.

*Figure 3***.** Data planning matrix.

To provide a thick description of events as recommended by Creswell (2013), field notes of observations and interviews describe the physical settings, individuals,

dialogues, activities, and events encountered. In addition, field notes also included both the researchers' perceptions of what happened and things that did not happen that the researcher might have expected. Merriam (2009) stated that observations of phenomenon that defy expectations might be some of the most valuable data of an observation. Such data could indicate a bias in the observer or that existing theories about the topic being studied may need revision. Attention to these details provides both a richer description and analysis of the case.

Because qualitative research situates the researcher within the field, field notes describe how I interact with participants and affect the scene being observed. In addition to the descriptive aspect of field notes, I also used field notes to record my own reflections, allowing for the documentation of in-the-moment analyses, thoughts, and reactions (Merriam, 2009). These reflections may further aid in the analysis or help reveal biases or assumptions of the researcher.

Data Analysis

In this qualitative investigation, data analysis took place simultaneously with data collection and was an iterative process, as recommended by Bogdan and Biklin (2007), Creswell (2013), and Merriam (2009). All interviews were transcribed and member-checked with participants to provide additional clarifications. Throughout the data analysis process, the researcher used analytic memos as described by Creswell (2013) and Saldaña (2016). Analytic memos are useful for clarifying thinking and provide another layer of data analysis as well as to assist in keeping the focus of investigation on the research questions (Creswell, 2013; Saldaña, 2016). Since the qualitative research

process was iterative, I continued to examine the literature while collecting and analyzing data as new findings revealed additional connections or relevant research that could aid the analysis (Bogdan & Biklin, 2007; Creswell, 2013).

As data was collected, observations, field notes, interview transcripts, and other artifacts were coded using methods described by Saldaña (2016). For this study, descriptive, in vivo, emotion, value, and evaluation codes were used to initially analyze the data to align with the research question, "How do PLCs affect teachers and their classroom practices?" After the initial coding process was completed, a second cycle coding process as described by Saldaña was used. In this process, "ore accurate words or phrases were discovered for the original codes; some codes will be merged together because they are conceptually similar; infrequent codes will be assessed for their utility…and some codes that seemed like good ideas during first cycle coding may be dropped altogether" (Saldaña, 2016, p. 234). Next, the codes were analyzed using a pattern coding process, where similar codes were grouped together by concept. This iterative process was used to generate the major themes from the data (Saldaña, 2016, p. 236)

From this analysis, a direct interpretation of the case was developed (Creswell, 2013; Stake, 2005). Stake (2005) described this process as a means of pulling data apart and reorganizing it into more meaningful forms. Using the models of Garet et al. (2001) and Stanley (2011) and theories of Craig (2009) and Kennedy (2016), an explanation building analysis as described by Yin (2009) was conducted to understand why things happened. This method of analysis matches evidence collected in the field to existing

theoretical frameworks to examine how the theoretical model fits the data. In this study, such analysis can determine how well these theoretical frameworks can explain the observed effects of PLCs on teachers and their classroom practices.

Establishing Credibility

Several steps were taken to establish credibility for this study. First, multiple interviews and observations over the course of the investigation situated the researcher in the field. Second, the researcher used member checks with participants during data collection and analysis to guard against misinterpretations. Third, data was triangulated between the multiple sources of data, including participant interviews, observations, and artifacts. Data from multiple interviews with multiple individuals were compared and cross-checked with data from observations and collected artifacts to determine corroborating or conflicting accounts. In order to account for researcher bias, I include a discussion of my own experience in PLCs to provide transparency for the reader (Creswell, 2013). In addition, a peer reviewer was used to conduct an external audit of the data analysis to serve as a check of the coding process and development of themes.

Role of the Researcher

In qualitative research, the researcher is the primary instrument for data collection (Creswell, 2013; Merriam, 2009). Because of this, it is important for the researcher to understand his or her role in the data collection process. Creswell (2013) identified four categories of engagement between researcher(s) and participants during observations: complete participant, participant as observer, nonparticipant, and complete observer (p. 166). For the observations conducted in this study my role was that of a nonparticipant,

which Creswell described as "an outsider of the group under study, watching and taking field notes from a distance" (p. 167). I adopted this position since the goal of this investigation was to understand how teachers in a self-directed PLC were affected by participation, and if I became actively involved in the observed PLC meetings, it would undercut the aims of the study.

Researcher Bias

Creswell (2013) recommends that researchers clarify their own bias from the outset of the study "so that the reader understands the researcher's position and any biases or assumptions that impact the inquiry" (p. 251). In this study, I present an overview of my own personal experiences in working with a PLC as a music teacher to provide the reader an idea of the experiences and potential biases that may have influenced the approach, design, and interpretation of this study. To address these potential biases, validation strategies such as triangulation, member checks, and an external auditor were used to minimize research biases. However, to provide transparency to the reader, I present my own personal experience in working in a music teacher PLC below.

Researcher Lens

Throughout my public school teaching career I participated in two PLCs of music teachers. The school district I worked for was an early adopter of the PLC model, and these had been in place at my school for six years before I joined the faculty in the fall of 2009. One PLC was situated in the music department of my own school and met weekly,

and the other included all of the high school instrumental music teachers of the entire school district and met monthly. My experiences in the two PLCs were quite different.

My school PLC included my two music teacher colleagues in the building and served as my primary source of support and mentorship in the early years of my teaching career. Our collaborative efforts were focused on teaching students to read notation, which was an area of concern in the band, orchestra, and choral ensembles as well as an area we covered in some of our general music offerings. Over the years we developed our own curriculum and strategies for teaching notation in classes where some students were already proficient and others had little to no previous exposure. While this work was our official focus, our PLC time was also used as a meeting time to take care of other business. In my five years at the school, the music faculty never had any common meeting time outside of the PLC. In practice, our PLC meeting times were the only times the entire department could regularly convene due to our collective teaching and extra-curricular duties. Our biggest challenge with the PLC was simply a lack of time to devote to PLC work and keeping our department running.

My school PLC was far more aligned with PLC practices as described by DuFour (2004) than the district high school instrumental music teacher PLC. One issue with the district-wide PLC was that there were several experienced band teachers who held strong views about how to teach their program and had little interest in what happened elsewhere in the district. Another issue was the disparate teaching situations of the six high schools. Half of the district PLC members were primarily interested in developing high levels of musical performance in students, while the other half was more concerned

with working on curricular alignment with the middle schools and effectively developing beginner-level players in high school settings. To me, it seemed that differences between teaching situations and the aversion of several senior members of the PLC to participating in the group were major impediments to the PLC experience being of value.

Limitations

Glesne (2011) commented, "Part of demonstrating the trustworthiness of your data is to realize the limitations of your study" (p. 212). To address this issue, I discuss several of the limitations of the present study. This study used a case study design, which Merriam (2009) and Stake (2005) argued can create a more compelling interpretation of the case and may lead to better theorizing about a greater number of cases. However, Creswell (2013), Merriam (2009), Stake (2005), and Yin (2009) warn that the findings and conclusions from a case study should not be broadly generalized beyond the case itself. Since all of the participants in this investigation were middle school band teachers in the state of Minnesota, their experiences may not be representative of music teachers in general.

Another limitation to this study was the number of observations and interviews. Nine participant interviews were conducted between November 2016 and January 2017, and three PLC observations were spread over a two-month period of December 2016 to January 2017. In addition, classroom observations were spread over a two-month period of January 2017 to February 2017. The timing of these observations and interviews was at the convenience of the participants, but it is possible that additional insights may have

been uncovered had the investigation started at the beginning of the school year or if I had conducted additional observations over an entire semester or academic year.

A final limitation of this investigation is my own bias as researcher and the primary instrument in the investigation (Creswell, 2013). To provide transparency to my audience I have provided a description of my own background and addressed the methods of ensuring credibility in the study (Creswell, 2013; Merriam, 2009, Yin, 2009). While these efforts do not fully counteract the influence of my own biases, I do hope they provide the reader with additional context that helps inform their own interpretation of this study.

Summary

This chapter provided an overview of the data collection and analysis methods used to develop the understandings presented in Chapters Four and Five. A case study design was chosen for this study because a PLC creates a natural boundary for the investigation, and the design allows for multiple theoretical frameworks to be used to inform the investigation. By choosing this research design, the professional development models of Garet et al. (2001), the PLC framework of DuFour (2004), and concerns raised by Kennedy (2016) and Richardson (2003) informed the design, data collection, and analysis of this investigation.

For this study, purposeful snowball sampling was used to identify potential participants. A PLC of three middle school band directors was selected to participate in the investigation. Data collection included multiple interviews with each of the participant teachers, observations of three regular PLC meetings, observations of each

participant teaching a class, and collection of artifacts such as teacher developed assessments and lesson materials. Data analysis included the coding of data to develop the emergent themes of the study (Saldaña, 2016). To establish credibility, steps such as prolonged engagement in the field, member checking, triangulation from multiple data sources, external readers, and thick description that provide the reader with context for the research were used (Creswell, 2013; Merriam, 2009; Yin, 2009). The findings and analysis of this investigation are discussed in the following chapter.

CHAPTER 4

FINDINGS

Introduction

This chapter discusses the findings from the investigation of the three-member middle school band PLC in the Loon Lake School District. In this chapter, I first review the purpose of the study, research questions, and the research design. Following this is an analysis of the case study. This analysis will be presented in three parts. First, I present a vignette to provide a description of the middle school band PLC to the reader. Second, I present the three themes of the analysis. Finally, I discuss findings as they relate to the three research questions of this investigation.

Review of the Purpose, Research Questions, and Research Design

The purpose of this case study was to investigate how involvement in an existing autonomous PLC affected K-12 music teachers and their classroom practices. The investigation was designed to explore how the self-directed meetings of music teachers within a PLC framework, like those described by DuFour et al. (2008), impacted music teachers and their classroom practices. The purpose of this case study was to investigate how involvement in an existing autonomous PLC affects K-12 music teachers and their classroom practices. There were three research sub-questions to further direct this study:

1. What knowledge and/or supports do teachers gain from their PLC experiences?
2. What organizational supports and leadership are in place for these PLCs and how do they relate to teacher and classroom outcomes?

3. How do teachers use knowledge and/or supports from their PLC in their own teaching?

A case study research method was chosen for this investigation because the research design allowed for the study of a real-world phenomenon in its natural context. Case study methods allow for the collection of multiple types of data, such as interviews, observations, and artifacts, which can provide a means to understand participant experiences and perceptions (Creswell, 2013; Merriam, 2009). Three middle school band teachers in Loon Lakes public schools who were members of a single PLC were the participants in this investigation. Data collection included three interviews with each member of the PLC for a total of nine interviews, an observation of three PLC meetings, field notes from observations and interviews, field notes from a classroom observation of each participant, and artifacts, which included sample student assessments, grading rubrics, and copies of student playing assignments. Interviews and PLC meeting observations were audio-recorded and transcribed for analysis.

In this investigation, data analysis was an iterative process concurrent with data collection. As Creswell (2013) stated, the processes of data collection, analysis, and writing are not distinct in qualitative research (p. 182). Throughout the data collection process, interviews and observations were transcribed, field notes and artifacts were reviewed, and all data were initially coded. Ongoing analysis informed questions for follow-up interviews. Initial coding of data used descriptive, in vivo, value, and versus coding as described by Saldaña (2016) to align with the research question, "How do PLCs affect teachers and their classroom practices?" *A priori* codes based on

professional development models like those of Garet et al. (2001) and Stanley (2011) were also used to connect data from this investigation to existing frameworks on professional development. Throughout the research process I wrote analytical memos as described by Merriam (2009) and Saldaña (2016) to further analyze and organize the data. Once data were initially coded, I further organized the existing codes using pattern coding (Saldaña, 2016). This organization of data led to the development of the three major themes of this case that will be discussed in this chapter.

Description of the Loon Lake Middle School PLC Meetings

The purpose of this description is to situate the reader into the experience of the middle school band PLC. Creswell (2013) recommended that qualitative researchers should aim to help the reader "develop a vicarious experience to get a feel for the time and place of the study" (p. 236). To that effect, I present a description of a meeting of the Loon Lake middle school band PLC to illustrate the case and provide context for the themes of the study.

Every observation of the PLC took place in the small band office of Loon Lake North Middle School. Hidden behind the double doors leading into the terraced music ensemble classroom, the single solid office door gives the impression it leads to a storage room. Only the signage reveals that it serves as the office for the band staff at Loon Lake North. Through the small office door, mismatched desks and tables line the edge of the room with the exception of the file cabinets along the back wall. Two shelves of texts on teaching, music education, and band pedagogy sit above Andrew's desk in one corner, while another two shelves of band music adorn the adjacent wall. Carol's desk sits in the

corner opposite Andrew's. Nearly every desk is stacked with manila envelopes and papers. An iMac computer sits on one desk in the center of the long wall opposite the band room.

At 8:00 A.M. on a Wednesday morning, Andrew and Carol enter the office. They exchange pleasantries and get settled in, waiting for Betty to call. Within a minute of the office clock showing 8:15 A.M., a ring is heard, and Andrew answers the incoming Skype call from Betty on an iPad. Propping the iPad up against the monitor a desktop computer, the meeting gets underway. The meeting begins informally, with a discussion of a recent concert:

> Betty: Hi, how's it going?
>
> Andrew: It's all good, both choir and orchestra had their concerts last night. Music department concerts are now wrapped up, and it's two days before break.
>
> Betty: Choir and orchestra? I know orchestra did, but I didn't know about choir.
>
> Carol: Yeah [Andrew: Yeah]
>
> Betty: That's late. I don't know if I'd want it that late. It's been crazy this week.
>
> Andrew: Yeah, I'd be curious how many kids are gone. I mean, I know it's not a huge percentage, but, you know, there's already kids on break. (observation, December 21, 2016)

Conversations during the PLCs continue informally, with topics fluidly coming and going. Departmental matters, such as an upcoming trip with 8th grade band students to Chicago, winter concert preparation, and an invitation for 8th grade students to join the high school pep band are the dominant points discussed in the meeting.

Administrative policy of the Loon Lakes Public School District requires that all PLCs submit a student-learning goal that is to drive discussions within each PLC. In the case of the middle school band PLC, the three teachers had set a formal goal of improving their students' abilities to read and apply key signatures. Andrew described it as:

> Our goal is with 6th grade. What we're doing is with key signature identification, where they have to identify notes on a staff following the key signature that they have. And so, we did it last year, and, we're doing it again this year with the expectation that our percentage of kids who meet a certain proficiency will be higher this year than it was last year. (Andrew, interview, November 16, 2016)

Andrew also shared that the goal had originally been chosen by the middle school band PLC members to address their shared concerns that their students were not able to independently recognize and appropriately apply accidentals and key signatures in their concert music with consistency. During the first year, the teachers created a set of shared worksheets and quizzes to assess student understanding of key signature. After one year, the teachers elected to continue their goal with some minor changes to better refine their own teaching of key signatures and continue adapting their instruction. Since the assessments and lesson activities had already been developed, discussions on the subject of how to teach students about key signatures took the form of informal sharing of classroom practices between teachers. Because of the informal nature of conversations, other topics would interrupt into this sharing of practice, as illustrated below:

Betty: I also do a unit; it doesn't take the whole hour, but I do a unit on key signatures and how to identify the key of the piece, how to read—you know, if it's one flat, two flats.

Carol: Yeah, I'm doing that too. I did that last year. I remember you sent the stuff over to me. I don't remember if I did it in January or December last year, but I'm definitely going to get a start on it now.

Betty: I do it like next week, where, like one day on flat keys. Just so we get beyond the point where is just B and E, see what line or space it's sitting on.

Carol: Yeah, I thought it was a good.

Betty: Yeah, next week we'll do some playing and that. And the following week will be playing. I have a scale due, C Major is due, thirds are due. We're going to start on our next playing assignment. We'll do a little bit of theory and playing each day.

Carol: Yeah, and that's pretty much what I'll do.

Andrew: …Anyone doing anything with holiday songs? (observation, December 7, 2016)

During the course of the discussions, the teachers would share problems, issues, and grievances among the group. This was simply an opportunity to vent frustrations to an understanding audience. Like other topics that came up in the course of the PLC meeting, a grievance would be shared, others would weigh in, and then the conversation would roll onto another item of business. For example, Betty aired a frustration about

students dropping band to protect their grade point averages despite never seeking any of the opportunities to get help outside of class:

> Betty: So I'm like, "Those kids are going to drop." Because their parents aren't going to…I can't just give them an A, as much as I'd like to.
>
> Carol: Yeah.
>
> Betty: Yeah, it kills me. I mean, they're getting solid A's in everything else, and they're getting a B in my class?
>
> Carol: Yeah, but they didn't make the extra effort to come in. If you were getting a B in math and you wanted an A you would go in and see the teacher. You know? But you're right, the parents will look at it, and they're like, if they say, "I don't want to be in band," the parents are like--
>
> Betty: "Okay, it's just hurting your grade point average." But what do you do? We lose those ones….[brief pause] Do you have a lot of kids? I don't have any kids signed up for the pep band thing. (observation, January 23, 2017)

Sometimes a PLC member would express a grievance to solicit suggestions or ideas from the group. When one of the teachers had a conflict arise with an administrator or parent, they used the PLC meeting as an opportunity to get peer feedback before taking action. This opportunity for a peer review gave the teachers a safety net to remain calm and collected in difficult communications with parents and administrators. For example, when Carol shared a parent e-mail she just received, the group quickly brainstormed how to best respond:

Carol: So, I got an email from a parent of an 8th grader in jazz band who's like, "Well, she's not going to perform because she has a soccer practice."

Betty: Oh, I have so many tomorrow night.

Carol: I mean, I know jazz band is extra and it's not necessarily required. But, if you have a practice—I wanted to say, if we had a jazz band practice and she had a soccer game, I would tell her to miss the practice. But I wouldn't want to get the parent mad.

Betty: I know.

Andrew: Maybe if you were to say, "Would you consider missing the soccer practice, that's much like our jazz rehearsal, a game is more like a performance and we'd really like her there?" Um, "If there's a concern talking to the coach I'd be happy to give them a call tomorrow."

Betty: Yeah, you can say, "We really need her there, just come for the jazz portion which is from this time to this time." (observation, January 23, 2017)

Following this discussion, Carol drafted a more nuanced response to the parent that all three of the teachers agreed had a better chance of enticing both the student and parent to attend the concert.

Throughout the course of the discussions, it was clear that the three teachers all got along well. Even in moments of disagreement, which were few, there was a palpable camaraderie in the office. Just before 8:45 A.M. the teachers came to a point where all of the pertinent items had been addressed. Everyone had their own agenda items to complete, ranging from completing paperwork for departmental matters for the Chicago

trip, to reminding students about upcoming events and due dates, to teaching a unit in one or more of their band classes. In the closing minutes of the meeting, the teachers would ask about each other's families and events in their lives out of school. At 8:45 A.M. everyone wished each other a good day. Betty would end the call on the iPad to prepare for her first class, and Andrew and Carol would step out of their office into the ensemble rehearsal rooms to ready for a full day of teaching.

Themes

Through an analysis of the nine teacher interviews, transcripts and notes for the three PLC observations and three classroom observations, and artifacts provided by the teachers, three main themes were evident. The first theme, titled with the in vivo, "what's the biggest fire?" reflects the practice of the teachers to devote time in their PLC to what they perceived to be the most immediate concerns of the band programs. A second theme of *balkanization of the PLC,* borrowed from Hargreaves (1994) and Stanley (2011), describes issues of isolation and compartmentalization suggested by the data. The final theme of *alignment of teacher values and curricular practices* reflects the teacher's stated desires to align their programs and curriculum with one another, while maintaining individuality as teachers, and the teachers' perceptions about the extent to which they had aligned their curriculum and practices.

Conversation Focus on "What's the biggest fire?"

The first major theme of this case is the nature of the conversations within the PLC meetings, which tended to focus on immediate needs of the band program or the individual teachers. Within the three meetings I observed, the first topic of discussion

was either about a recent concert or the upcoming Chicago trip. Following the introductory topic, discussion would shift to a variety of subjects, such as departmental business matters, planning for upcoming concerts, teaching ideas, or concerns regarding students, parents, and administrators. While in the interviews the PLC members discussed how their PLC had set student-learning goals, developed common assessments, and shared ideas about instruction, I observed very little of that in the PLC meetings. Instead, discussions gravitated towards concerns about an upcoming 8th grade instrumental music trip, concert preparation, and other concerns of participants.

The conversations I observed in the Loon Lake middle school band PLC were often inconsistent in keeping the focus on student learning as recommended by scholars (DuFour, 2004; DuFour et al., 2008; Stanley, 2011). In my observations, the Loon Lake middle school band PLC primarily used the PLC meeting time to address issues that were removed from student learning. Instead, the participants tended to discuss financial and logistical matters need to maintain the performance and travel expectations of the program. In Figure 4 below I illustrate the major topics addressed in the observed PLC meetings. Within the diagram, the size of the circle for each topic is related to the amount of time it was discussed in the PLC meeting.

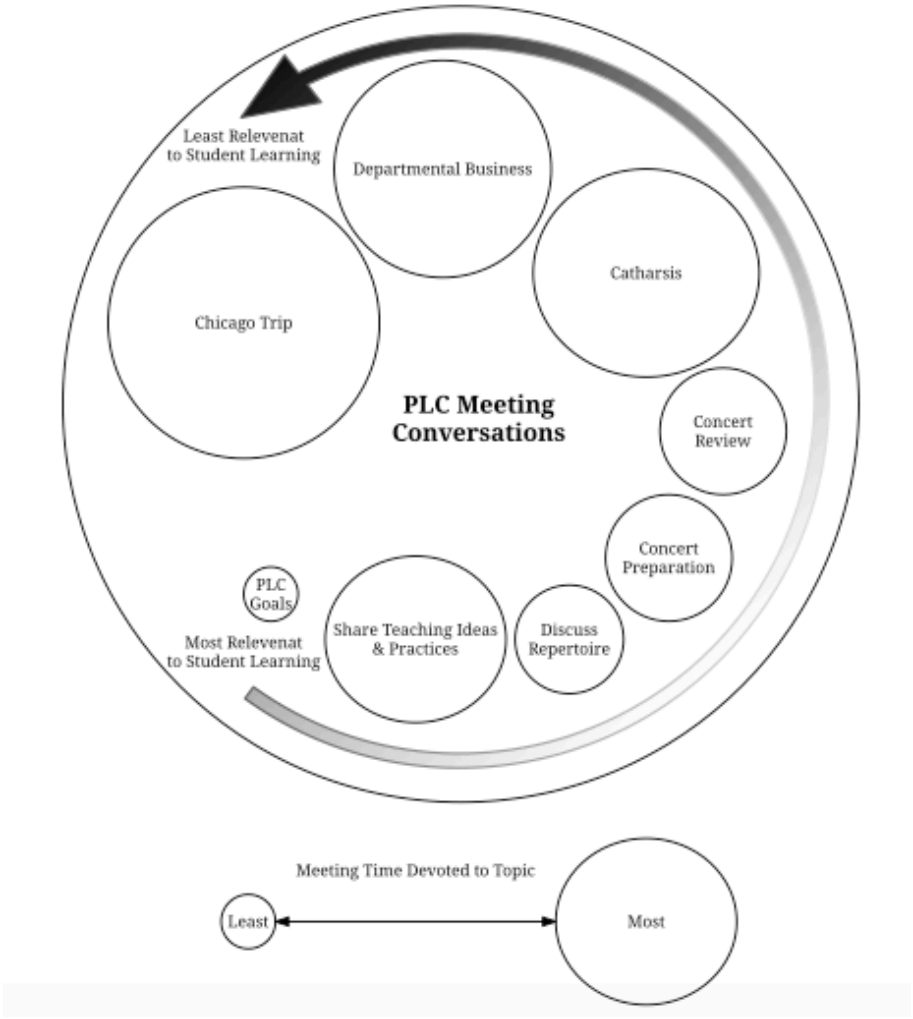

Figure 4. A diagram of topics discussed within Loon Lake middle school PLC meetings.

As Figure 4 indicates, the Chicago trip, departmental business matters (account balances, equipment orders, fundraising), catharsis, and sharing ideas and practices were the topics that took up the most time during the observed PLC meetings discussions. *Catharsis* was used as a term to describe conversations when one or more participates would share their concerns or vent frustrations to a sympathetic group of colleagues. The phrase *sharing ideas and practices* was used to describe conversations when the teachers would share classroom practices with each other. Examples of these conversations

included a discussion on teachers' technology use in teaching music theory, a comparison of lesson pacing between teachers, and conversations inquiring about the frequency of playing assessments in each others' classes.

Other topics that I observed being discussed in the PLC could be characterized as concert preparation, concert review, discussing repertoire, and discussing the formal goal of the PLC, which was to improve 6th grade students' abilities to correctly identify and apply key signatures. In the diagram, I arranged the major topics from conversations where participants most directly addressed student learning and teaching practices to those where participants seldom related the conversation to student learning or teaching practices. Data from participant interviews indicated that all of the teachers perceived a dissonance between the topics they believed should be the focus of their PLC meetings and the topics that were actually discussed in the meetings. In the following section, I provide a more detailed description of the eight major topics I observed being discussed within the Loon Lake middle school band PLC meetings. Following this discussion I present findings of participants' perceptions of the topics discussed during their PLC meetings.

Chicago. Throughout my investigation of the Loon Lakes middle school band PLC, an upcoming 8th grade band and orchestra trip to Chicago was often the most pressing concern of the participant teachers. In an interview, Carol explained that the 8th grade instrumental music trip was started in part to entice students to join and stay in band class after the Loon Lake district made 8th grade music participation required instead of optional. As Carol shared, by adding the trip, "at least when we tell the kids,

'you have to take a music class next year,' we're going to have this trip" (Carol, personal communication, January 18, 2017). Carol elaborated in an interview that the decision to add an 8th grade instrumental music trip was also influenced by programs in neighboring districts.

Because the trip involved orchestra students, the Loon Lake middle school orchestra teacher, Derek, was also involved in conversations about the Chicago trip. As an orchestra teacher, Derek belonged to a separate PLC with the elementary orchestra teachers in the district. However, Derek's PLC met a different time than the middle school band PLC, so Derek would occasionally visit the middle school band PLC meetings to discuss the Chicago trip. In my observations of the meetings, it was clear that Derek was somewhat independent in the preparations for the Chicago trip. Because Derek taught orchestra at both middle schools, he didn't need to coordinate with colleagues to plan combined ensemble repertoire and rehearsals. When he did join the middle school band PLC meetings, the conversation would immediately shift to Chicago, but the band teachers often discussed the trip without Derek present. In his absence the conversations about the trip tended to focus on preparations specific to band students and parents.

Since the trip involved 8th grade band and orchestra students, Betty and Carol were more involved in the discussion than Andrew, as it did not immediately pertain to his students or classes. However, Andrew was just as involved in the Chicago discussions when it came to the financial aspects of the trip. During my first PLC meeting observation in December, the most immediate concern presented at the meeting

was a lack of parent chaperones for the April trip. The following exchange took place at the start of the PLC meeting:

> Betty: Can we talk about Chicago? I'm worried we need to get some more chaperones for Chicago.
>
> Carol: So far I only have one parent who's said they want to go.
>
> Betty: I only have one too, I'm a little worried about that.
>
> Carol: Yeah, I'm a little worried
>
> Betty: Yeah, I don't know, what do we do if we don't—
>
> Andrew: [interrupting] What was the goal?
>
> Betty: —We didn't want to do this, but we may have to look into offering more of a discount. Because I had three who initially said they wanted to go, but now they're not going. (observation, December 18, 2016)

The concern about having enough chaperones was the most pressing issue of the first PLC meeting I observed, as the discussion lasted the first quarter of the entire meeting (field notes, December 18, 2016). There was a need for chaperones, a lack of volunteers, and an approaching deadline to solve the issue since the teachers needed to finalize numbers before booking hotel rooms. Over the next two observations, the issue of parent chaperones remained, but the teachers did not devote as much time to it as they had some successes in recruiting parent volunteers (field notes, January 23, 2017).

In the participant interviews, the teachers shared their awareness that the Chicago trip tended to dominate the discussion. As Betty stated, "I gotta be honest, with this Chicago trip—we just started it last year—that has changed our PLC" (personal

communication, January 22, 2017). Though the impending Chicago trip took up a significant portion of discussion, in an interview Andrew expressed his belief it would become less prominent in the PLC discussions over time. In an interview he shared:

> I realize a lot of these things, primarily Chicago, needs to be accomplished, and is higher stress for my colleagues. And this being the second year, they're needing time to become more comfortable with it….In time I think less of our time will be devoted to discussing those things, because it becomes more normal. We've seen what happens; we know how to address it. (Andrew, personal communication, January 23, 2017)

While the Chicago trip may become less prominent in PLC conversations as the teachers become more experienced in leading the trip, at the time of this investigation a significant portion of the middle school band's PLC meeting time was dedicated to trip planning.

Departmental business. Another major topic of discussion I observed during the Loon Lake middle school PLC meetings was what I labeled departmental business. These items included discussions on fundraising, purchasing, and scheduling. During one PLC meeting, the teachers discussed the status of their department's trust account and a recent administrative request to keep account balances smaller. While Betty knew the status of the South Middle School band account, Andrew and Carol were unsure the status of their account (field notes, December 21, 2017). During the same meeting, the teachers discussed the best way to purchase microphones for the North Middle School jazz band and debated which account they could draw funds from for the purchase. Though these conversations about departmental matters were predominantly about

finances, additional items, such as distributing information about honor bands and the high school band program's 8th grade band night were also briefly discussed in the PLC meetings.

Catharsis. The topic *catharsis* arose from my observations of the PLC meetings in which members would joke and vent about their frustrations. During one of my meeting observations, Betty shared her frustration with here school administration's adoption of a "no zero" policy that prohibited teachers from lowering students' grades for turning in assignments late. The result of this policy meant that many of her students did not turn in assignments until the end of the quarter, if at all. To adapt, she started taking time out of her regular class to have students complete their homework and practice assignments (field notes, January 23, 2017). As Betty commented, this defeated the purpose of assigning homework, but she was still expected to assign homework by her school administration. As Betty shared her frustration, the other members of the PLC listened and agreed that the "no zero policy" was not an effective system.

Even during the course of discussion on a separate topic there would be moments that allowed members to vent and find camaraderie with colleagues who faced similar circumstances. During a PLC meeting conversation about financing the purchase of microphones to use in a concert, the teachers shared their grievances about the financial support they felt they had from their school administration:

Betty: And, you know, we have a lot in our candy sale account currently, but I don't want to go start buying instruments out of there. Because that'll become the

norm, and they'll say, 'well, just purchase all your instruments out of there.' And I kinda want to buck the system with that.

Carol: And I think so too. I think, you know, because like you said, they gave you a hard time for selling candy bars, and you're like, "okay, well, where else are—then you need to give us $5,000 to spend on all of our needs." It's like, if we start to use it—I mean there are certain things we shouldn't have to spend candy sale—like, it's awesome you have those mics, but I'm thinking, should we really have to use our candy sale money to buy those if it's a need for our performances? (observation, December 21, 2016)

All of the participants were aware that they used the PLC meeting time to air grievances. In separate interviews, all of the participants commented that the opportunity to vent to their colleagues was a valuable part of the PLC experience. As Carol shared in one interview, "There are times when some things are in your face when it feels better to vent and talk about it with people who understand" (interview, January 25, 2017). Similarly, Andrew commented, "Venting and complaining has its place" (interview, November 16, 2016). In one interview with Betty, she shared her perspective that the PLC, "serves more a purpose than just curriculum, sometimes it's just general counseling" (interview, December 6, 2016).

Concert preparation. Another frequent topic of discussion in the PLC meetings was about preparations for upcoming band concerts. Since the middle school bands of both schools perform together, the teachers would discuss logistics such as who was going to bring items such as percussion equipment, amplifiers, microphones, and

recording equipment (observation, December 21, 2016). During the December 21st PLC meeting, the teachers also discussed setup for a concert featuring both concert bands and jazz bands. Conversations about upcoming concerts were usually to the point with minimal discussion.

In the PLC meetings the teachers also discussed their concerns related to concert preparation. There were multiple sections of band for each grade level at both schools, and each section had mixed instrumentation, and ranged from around 18 to 45 students in each class. For concerts, the classes would combine into a single 6th, 7th, and 8th grade concert band from each school. For example, four sections of 6th grade band at North Middle School performed as a combined single band, which presented a challenge to the teachers, as the combined band could not rehearse during regular class times. To prepare students for concerts, the middle school band teachers would need to find time to rehearse the combined grade level bands outside of the school day, typically before school. Though the combined rehearsals posed some logistics challenges in finding spaces to rehearse a band ranging from 80 to 130 students, the teachers were in agreement that the rehearsals provided an important support for students to feel prepared for their concerts (observation, January 23, 2017).

Concert reviews. During the course of my observations of the PLC, there were several middle school music program concerts that were discussed in the PLC meetings. In two of my observations, the first point of discussion was to review a recent concert by one or more of the bands. Meetings began with members congratulating individuals on the recent concert and asking about how things went. Although these conversations

started as pleasantries, they would evolve into discussions about what to do for future concerts. During one of my observations, Betty and Carol discussed whether or not to move a concert date since it was close to Thanksgiving, which they felt unnecessarily stressed out the students (field notes, December 21, 2017).

Repertoire selection. Another topic of conversation in the PLC meetings was about repertoire selection for the various bands. Sometimes, this would be as simple as someone asking, "Anyone doing anything with holiday songs? Jingle Bells? Dreidel?" (observation, December 7, 2016). However, in some instances, the discussions would be more involved. For example, during my first observation of the Loon Lake middle school band PLC meeting, Betty and Carol discussed potential repertoire for a combined 8th grade concert. In this discussion, the teachers shared the strengths and weaknesses of their 8th grade bands. One piece being discussed, *Earth Dance,* was the center of a lengthy discussion. Betty programmed the piece with her 8th grade students in a previous year and shared some of the challenges of this work. Carol and Betty would go through each of the sections of their bands (flutes, clarinets, etc) to determine if the piece was a fit for their group. After discussing the merits and challenges of the work, they agreed to program the piece for the spring concerts and Chicago trip (field notes, December 7, 2016).

Sharing practices. Some of the most vibrant conversations I encountered in the PLC sprang up when the teachers would ask each other about what they were doing in their classrooms During one meeting I observed, a single question spurred an animated

discussion between the participants about the activities they used to practice reading key signatures in their classes. It began with a question from Andrew:

> Andrew: Have you tried the Apple Classroom at all?
>
> Betty: I don't even know what the Apple Classroom is.
>
> Andrew: So if all your kids turn on their Bluetooth, and you download this app "classroom" from our app store. You can see what's going on kids' iPads, and you can pull up their individual screens. There's a banner up top that's blue, so they know you're looking at their stuff. (observation, December 7, 2017)

From there, the teachers all shared some of the activities they did in their respective classrooms. They gave suggestions to each other, like in the following example:

> Betty: Yeah, you know what? It's probably mean, but I go around in front of the class and have them answer in front of the class.
>
> Andrew: Yeah, but this could be a way you can get them all engaged going at their own pace.
>
> Betty: Oh yeah. That's true.
>
> Andrew: And telling them you're going to be doing the classroom and they have to be on Bluetooth. The other thing is if a kid's off task you can lock their iPad.
>
> Carol: Okay? So how does it work though? Do you have to initially set it up?
>
> Andrew: They've already done it… But I know the kids know how to get around it: you turn off your Bluetooth and then they're free.
>
> Carol: Aww

> Andrew: But as long as you say, 'I'm going to check in on what you're doing.' They know what they're supposed to be doing, so no complaints. There's always the failsafe of just taking their iPad. They're like, 'ha ha, you can't—' and you're like, "actually, give me your iPad." (observation, December 7, 2017)

In interviews with participants, all commented that the informal conversations about each other's teaching were some of the most valuable experiences found in the PLC meetings. For example, Carol stated that she had adopted new teaching strategies from listening to colleagues share their own practices. As she stated, "You might hear one teacher say something, and you're like, 'I gotta use that.'" (Carol, interview, December 20, 2016). In a separate interview, Betty also identified these conversations as particularly worthwhile. She shared, "Any time you're able to sit down with your colleagues and ask what they do, or, you know, that always leads to better practice and better work because you're getting ideas" (Betty, interview, December 6, 2016).

PLC goals. In Loon Lake Public Schools each PLC has a formal student-learning goal to guide teachers' collaborative efforts. All of the PLC goals in the Loon Lake school district were interchangeably referred to as both "PLC goals" and "SMART (Specific, Measurable, Attainable, Realistic, Time-Bound) goals."[4] At the time of this investigation, the formal goal of the middle school band PLC was for all 6th grade students to correctly identify notated pitches with both accidentals and a key signature and provide the correct fingerings on their instrument on a written assessment by the end

[4] The term and framework for "SMART goal" was first proposed by Doran (1981), and has been used in K-12 education for developing teacher and student goals (O'Neill, Conzemius, Commodore, & Pulsfus, 2005).

of the school year. An example of this type of assessment can be found in Figure 5 below. The middle school band PLC had also had the same PLC goal the year prior to the investigation and elected to continue working on the goal to refine their assessments and teaching from the previous year.

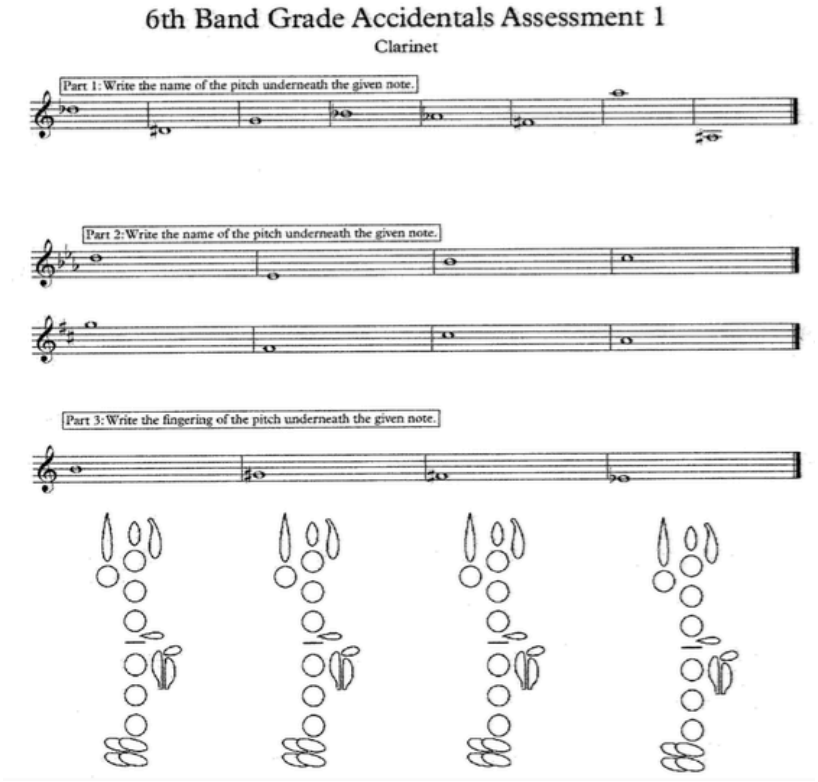

Figure 5. A key signature assessment developed by the Loon Lake middle school band PLC.

There were few conversations specific to the PLC Goal during the PLC meetings I observed, and in interviews the teachers' accounts corroborated that they seldom discussed the formal goal in PLC meetings. During the first meeting, the PLC goal was briefly addressed when Betty was asked about what she planned to do between her December concert and the holiday break:

> Betty: I also do a unit on key signatures and how to identify the key of the piece, how to read—you know, if it's one flat, two flats.
>
> Carol: Yeah, I'm doing that too. I did that last year. I remember you sent the stuff over to me. I don't remember if I did it in January or December last year, but I'm definitely going to get a start on it now. (observation, December 7, 2016)

In the other two meetings I observed, the PLC goal was not addressed other than to confirm that no one had an questions or concerns about it.

In interviews with the participants, they shared that their own goals for the program were wider in scope. They wanted to prepare students for high school band, to be musically independent, and to love music. However, the formal goal of the PLC was limited to developing the specific skill of reading and applying key signatures. In an interview, Betty commented that in her class:

> I would say I didn't put too much time into the goal. But, that being said, what we're doing is something we're doing every single day. You know, it's just automatic in there. It's like, you know, if you stand up and you have a new piece you're gonna say, "Hey, we're in the key of B-flat concert, and look at your key signature." (Betty, personal communication, December 6, 2016)

Betty's statement encapsulated what I observed in the participant's classrooms. Though the teachers would take a moment to review key signatures with students before playing scales or a piece of repertoire in class, these reviews were quick, and didn't take more than 30 seconds. In all of the classes I observed, the teachers addressed the key signature of at least two different scales performed during warm-ups and before beginning

rehearsal of the repertoire. Sometimes when switching to a new piece of repertoire in the rehearsal, I observed the teacher asking students about the key signature. It was interesting that the formal focus of the PLC on students' ability to recognize and apply key signatures was minimally addressed during my observation of the participants' classrooms.

Data collected from artifacts revealed that the narrow scope of the current goal of the PLC had been the norm for the PLC. The teachers shared previously developed assessments and rubrics they had completed for past goals PLC, such as rubrics for assessing student performance of rhythms, scales, and musical excerpts (Figure 6).

Name_____ Song_____

Performance Assessment Rubric

Lesson #1	6	5	4	2
Notes	All notes are correct and key signature is observed	1 or 2 fingering mistakes or missed notes	3 or 4 missed notes.	More than 4 errors. Student does not demonstrate understanding of fingerings.
Rhythm	Accurate rhythms throughout	1-2 rhythms and/or rests misplayed and/or miscounted	3-4 rhythms and/or rests misplayed and/or miscounted	More than 4 rhythms and/or rests misplayed and/or miscounted
Articulation	All articulations are executed correctly.	Nearly all articulations are executed accurately with a few minor mistakes. (1-2 errors).	There is evidence of some correct articulation, but it is consistently applied. (3-4 errors).	Student demonstrates little or no understanding of correct articulation.
Technique	Superior technique in all areas (breath support, posture, proper playing positions)	Knowledge of technique is demonstrated in most areas (1-2 inconsistencies).	There are major inconsistencies in technique (3-4 areas)	Student does not demonstrate an understanding of technique on their instrument.
Tempo	Steady beat throughout with no hesitations or pauses	Steady beat for most of performance with slight fluctuation in pulse in 1-2 places.	Major fluctuation in pulse due to any of the following: unsteady beat, one large pause, and/or 2-3 small pauses.	Pulse not steady for a majority of time. This may include more than one large pause and/or more than three small pauses.

Score_____ Grade_____

30-28=A, 27=A-, 26=B+, 25=B, 24= B-, 23=C+, 22=C, 21= C-, 20=D+, 19=D, 18=D-, 17 = redo

Figure 6. Performance assessment rubric developed by the Loon Lake middle school band PLC.

The rhythm, scale, and performance assessments developed in previous years were still used by all of the teachers in the PLC for assessing students in 6th-8th grade band. They were used primarily to assess playing assignments students would videorecord and submit through the school district's online learning management platform, Schoology®. In my observations of each of the participants' classes, the teacher would remind students to submit their playing assignments to Schoology®, but otherwise these rubrics were not part of the daily classroom routine. In interviews, the teachers shared that the rubrics made in previous years were still in use. Carol declared, "We're still overall using them for the most part. And that was even like four—three/four years ago, so that's kinda handy" (Carol, personal communication, December 20, 2016). Betty shared that each quarter she assigned the following performance assessments: "two playing exams, two scales, and a rhythm" (observation, January 23, 2017). In an interview Andrew stated that his student were required each quarter to complete only the following assessments: "two playing ones, which have rubrics, and two scale ones, which have rubrics" (Andrew, personal communication, January 23, 2017). Carol added that while she used the scale and performance rubrics during the year, "I haven't used the rhythm rubric yet in here. I kind of got lax on that" (Carol, personal communication, January 25, 2017).

While the PLC had focused on rhythm immediately prior to the current goal on key signatures, data indicated that the rhythm assignments and rubrics had already fallen into disuse by two of the PLC members. This data suggests that without the PLC formally implementing a particular set of assessments, there was little incentive to

continue using or attempting to improve upon them in the classroom. As Carol stated, "Whenever you have your goal you really focus in on that area, but other things slip aside a little bit" (Carol, personal communication, December 20, 2016).

When I asked the teachers about the absence of discussion on the PLC goal in the meetings in interviews, they each expressed awareness that the topic was rarely broached. Betty shared her thoughts on the lack of discussion on the PLC goal during their meetings:

> [Our] curriculum is so aligned we don't have to sit and hash it out like we used to. You know? Several years ago we did, but that's when we were updating rubrics and changing everything, and now we don't have to do that as much anymore. (Betty, personal communication, January 22, 2017)

Each of the participants shared in interviews that they viewed a disconnect between the conversations about the PLC goal and student learning they were "supposed" to have and the actual conversations about the various needs of the band department. In the following section I present data reflecting participants' perceptions and concerns that their PLC conversations often veered away from discussions of student learning and the formal goals of the PLC.

Dissonance between participants' ideal and actual PLC conversations. As an observer, there appeared to be a misalignment between the conversations on student learning that are supposed to be central to the PLC (DuFour et al., 2008), and the reality of the conversations that actually transpired during the Loon Lake middle school band PLC meetings. In observations of the PLC meetings and interviews, participants voiced

an awareness that the things a PLC was "supposed to do" and what actually transpired during their PLC meetings were dissonant. During my first observation of the PLC meeting, the participants jokingly asked if they needed to stay on task, or if I wanted to see "reality" (field notes, December 7, 2016). Subsequent interviews with participants corroborated this awareness that the conversations within the middle school band PLC's meetings often had little to do with student learning and more to do with logistics and running the department. When asked about his thoughts on the focus of conversation in the PLC meetings, Andrew shared, "I think part of the DNA of this particular PLC is, 'What do we functionally have to address at this point?'" (Andrew, personal communication, January 23, 2017). In a separate interview, Betty further explained that many of the topics addressed in the PLC meetings were the result of not having time to otherwise meet and plan (Betty, personal communication, January 22, 2017). This assertion was corroborated with the data collected in observations of the PLC meetings, which indicated that the PLC meetings of the Loon Lakes middle school band PLC were focused primarily on running the department and preparing for upcoming events involving the middle school bands.

Participants expressed an understanding about needing to accomplish the PLC goals relating to the common assessments and reviewing the data, though in practice these discussions were brief to accommodate other perceived needs of the band program. During my observations, the teachers were in the process of getting the first of their common assessments ready and students were just beginning to complete them (observation, December 21, 2016). Since the PLC's student learning goal to improve 6th

grade students' abilities to identify and apply key signatures was continued from the previous year, the common assessments had already been developed. This allowed the teachers to focus on activities to reinforce the reading of key signatures and a plan for when to introduce and teach the material. During my observations, the teachers prepared to implement a key signature unit in their classes. They agreed to formally discuss the PLC goal after they had collected new data to discuss, because they already had their assessments and activities planned and nothing new to bring to the conversation.

Without the PLC goal to center the discussion, Andrew commented, " There's not really a given agenda per se; it's almost more of a 'What's the biggest fire, currently?'" (Andrew, personal communication, November 16, 2016). Despite the lack of an agenda, there seemed to be a consensus among participants about what needed to be discussed during the meetings. In every meeting I attended there was at least a brief discussion about the Chicago trip, progress towards the PLC goal, review of past concerts or preparation for upcoming ones, and time to discuss any urgent needs from administration or members of the PLC. Group discussions were rife with humor and oscillated between serious discussions and informal banter, often within the same conversation. In my interviews, it became clear that this was the norm for the PLC. As Carol shared:

> We kind of start greeting with what's going on and sometimes there's something, like, time pressing. Like, 'Oh, there's this concert coming up, are you doing the programs?' Or just little stuff like that, 'Do you have this? I have this.' And then we kind of get into, 'What do we need to do to get done?' (Carol, personal communication, December 20, 2016)

Though the teachers were all very open in discussing the differences between the ideal PLC and what the PLC had become in their reality, they did express awareness about the dissonance.

According to the teachers, their administration condoned the inclusion of topics not specific to the PLC goal within the PLC meeting conversations. Andrew described, "The district has also acknowledged that the conversations should not simply be just about your SMART goal or just about those four questions, but talk about: 'I have this student need'" (personal communications, November 16, 2016). However, Andrew also shared his belief that the PLC time:

> Shouldn't be about what you have to do, but about students and student needs. And not that they don't exist on a spectrum, but it's supposed to be talking about students that whole time. Not about what you have to accomplish for the next thing. (Andrew, personal communication, November 16, 2016)

There was some frustration expressed by the teachers that other items invaded the PLC discussions. In an interview with Andrew after one PLC meeting, he shared:

> I think it's evidenced through a lot of what you've observed. This PLC takes on more of 'What needs to occur and how can we accomplish that at this time?' Discussing more of the details and philosophy. I thought today was somewhat nice because we did talk about some of our grading, and we actually spent more time talking about our students and student experience than we have at other times, which I think is more of the goal of the PLC. I personally would like to see

more of that, that's more of what I'm about. (Andrew, personal communication, January 23, 2017)

Carol shared similar concerns with Andrew about the PLC conversations moving away from the topic of the PLC goals and student learning. Even though their PLC met the requirements set by the school administration for creating goals, common assessments, and discussing student learning, Carol expressed some guilt for spending time not needed to meet the requirements on topic unrelated to student learning. As she shared in one interview:

> I know sometimes we use PLC time to do logistics and stuff, and I know technically we're not supposed to use the time for that, but it's like—otherwise we'd have to make some other time to do it. Because we've worked together before it's like, we have our goal, we have the stuff we have to do with the PLC, and we get it done. But then we use the other time to get stuff figured out that otherwise would take more time. So, you know, sometimes I feel like, "Should we be spending this much time talking about this stuff?" But then I'm like, "well, if we're doing what they're require…"—you know? If we're getting the minimal requirements in then…You know what I mean? I guess that's where I personally feel a little torn. (Carol, personal communication, December 20, 2016)

Of the three members of the middle school band PLC, Betty seemed to be the least concerned with the dissonance between what the PLC was supposed to do and what actually transpired during meetings. Like Carol, she commented that there was little new to add towards the formal goal of the PLC. In one conversation she stated:

> Everything we do with curriculum is so aligned we don't have to sit and hash it out like we used to. Several years ago we did, but that's when we were updating rubrics and changing everything, and now we don't have to do that as much anymore. (Betty, personal communication, January 22, 2017)

Betty had some reservations about how much time the PLC spent planning for the Chicago trip in particular. However, she seemed more resigned to the fact that there simply was not enough time to take care of all of the band departments' needs. As she shared:

> I gotta be honest, with this Chicago trip—we just started it last year—and that has changed our PLC. Like, it used to be more goal and talking about that—and that's something we have to evaluate—but at this stage in the game when we don't have time to get together, and, it seems like that's what we end up doing. (Betty personal communication, January 22, 2017)

Though all members of the PLC agreed that the meetings diverged from the topics centered on student learning, there were subtle differences between the participant's interpretations of the dissonance between ideal PLC conversations and reality. Andrew was the most vocal about wanting to shift the conversation to student learning. Betty was the most focused on taking care of the needs of the department. Carol was caught in the middle, wanting to make sure the PLC met the school administration's requirements but also the needs of the department. Data analysis indicate that addressing needs of the band department and teachers was the chief focus of the PLC.

Summary of the first theme. The first theme of this investigation was "What's the biggest fire?" which describes the conversations in the PLC meetings. Conversations in the PLC meetings were informal and fluidly changed between a range of topics. Some of the discussions in the PLC meeting were focused on the formal goal of the PLC to improve 6th grade students' abilities to correctly read and apply key signatures and student learning in the band classes. However, most of the conversations in the PLC meetings were focused on topics other than student learning. The most prominent discussion topics in the PLC meeting were the Chicago trip, departmental business matters (account balances, equipment orders, fundraising), catharsis, and sharing ideas and teaching practices. Other topics were discussed to a lesser extent in the PLC meetings included concert preparation, concert review, repertoire, and the formal goal of the PLC. In individual interviews, all of the participants shared their own awareness that there was a dissonance between the ideals of a PLC meeting and their own PLC conversations. While there was agreement among the three participants that their PLC meetings were not ideal, each of the participants offered a different perspective on what they thought need to be prioritized in the meeting. The ways in which the teachers negotiated their differences in priorities within the PLC will be addressed in the following section.

Balkanization of the PLC

Merriam-Webster's Online Dictionary (n.d.) notes the term *balkanization* originated as a geopolitical term referring to the division of the former Yugoslavia into the Balkan states. However, a secondary definition of *balkanization* describes it as the

division or compartmentalization of parts (Merriam-Webster, n.d.). The use of the term balkanization to describe communities of teachers is not a new idea in education research. Hargreaves (1994) used balkanization to describe the isolation of teacher communities and elaborated characteristics of balkanization in the teaching profession.

According to Hargreaves, simply forming a small group does not in itself constitute balkanization. In order for a group of teachers to be considered balkanized, Hargreaves identified four conditions. The first was that the group had what Hargreaves called *low permeability*. For low permeability, teachers "belong predominantly and perhaps exclusively to one group," and have clearly defined boundaries between group and non-group members (p. 213). The second condition was that the group has high degree of permanence, or stable membership over time. The third condition identified by Hargreaves was that group members identify with the group and are socialized to see themselves as segregated from other teachers by area of specialization (p. 214). Finally, Hargreaves stated that balkanized communities have a political complexion, meaning that members of the community promote their own and the groups' collective self-interests. The data collected during my investigation of the Loon Lake middle school band PLC, suggested that all four conditions of balkanization as described by Hargreaves (1994) were present to some extent in the PLC. In the following sections, I will present evidence related to the four characteristics of balkanization identified by Hargreaves: clear boundaries between groups, stable membership, an established group identity, and political aims.

Defined boundary of the PLC. The boundaries of membership for each PLC within the Loon Lake school district were clear. As Andrew, Betty, and Carol described, music teachers in the district self-select to be a part of a particular PLC. To describe the process of organizing the PLC, Andrew shared the process was simply asking for permission from the district administration, "We say what kind of PLC we want to have, and we apply for that, and that PLC is approved or not approved" (personal communication, November 16, 2016). At the time of data collection, there were six music teacher PLCs within Loon Lake public schools organized according to teaching assignments: high school instrumental (including both band and orchestra), high school and middle school vocal, middle school band, elementary and middle school orchestra, elementary band, and elementary general music.

These divisions of music teachers in the Loon Lake school district into separate PLCs created clear boundaries between music teachers based on grade level and content specialization. In interviews, participants brought up that there was little communication between teachers across the different music teacher PLCs in the Loon Lake school district. The teachers often used phrases such as "vertical alignment" and "vertical communication" to describe interactions, or lack thereof, between music teachers of the separate PLCs. A lack of a vertical alignment specifically was a participant-identified issue that all three of the participants wanted to address, particularly between the middle school band PLC and the high school instrumental music PLC. In one interview, Andrew described the current state of communication between the elementary, middle, and high school band teachers from his perspective:

> There is a surprising—to me—lack of communication between the levels of our band program. Structurally in the district we have our department meeting during workshop week at the beginning of the year, and that is the only required time that we're all together. (personal communication, November 16, 2017)

Though music teachers at the elementary, middle, and high school level interacted throughout the year, these conversations tended to be focused on joint performances or events, such as a district band festival. As Betty described:

> We do a lot of email communication. You know, like we do a district band festival. Then we're going back and forth all the time to figure everything out. But, as far as face to face time, it's like once a year, and that's about it. (personal communication, December 6, 2016)

According to Andrew, this perceived lack of communication between middle school band PLC and other music PLCs in the Loon Lake district was not unique to the middle school band PLC. He shared that, "When I was at the elementary level there was next to no communication between levels, save for planning of the district band festival, but that was just planning for an event, not a shared vision for a program" (Andrew, personal communication, November 16, 2016).

Throughout the interviews I conducted, all members of the middle school band PLC expressed desire to formally meet more frequently as a 5-12 band PLC to address the alignment of the band program between grade levels. As Andrew shared:

> I think if there's more, maybe even once a year, having time to say, "What do we want the whole band experience to be?" Which would involve discussion of

numbers, or why students continue, don't continue, or what we should offer. (Andrew, personal communication, January 23, 2017)

Though Betty and Carol echoed Andrew's sentiments in their own interviews, they were both primarily concerned with the communication between the middle school and high school PLCs. Betty described the main change she wanted to see in the PLC structure as follows:

> I would like to have time to meet with the high school PLC, so I would know that what we're doing as a middle level group. You know, that's the one thing that's missing. It's like high school has their PLC; we have our PLC. Is what we're doing at the middle level effective for when they become high school students? You know? That would be nice. (personal communication, December 6, 2016)

The challenge to meeting with the elementary and high school band staff was primarily an issue of time. Betty taught before school ensembles two days a week. Both Carol and Andrew had additional commitments to other meetings and open office hours before school three days a week in addition to before school rehearsals. Options for having meetings after school were just as limited due to various student activities. Andrew mused that families and the lives of teachers outside of the school were part of the reason adding extra meetings outside of the current schedules has not been viable. As he described:

> There's not been a lot of interest in these additional meetings. We've—I and a few others—have tried to schedule getting together socially once a month. And, you know, some people come; some people don't. And there's also understanding,

> you know, people are at different stages of their life. You know, my colleagues at the high school, one of them has two baby girls, and, you know, the other has a child here at the middle school and one at the elementary. That's just a different stage of life and different needs. (Andrew, personal communication, November 16, 2016)

On the topic of scheduling, Carol also commented that it was easier to just keep to the Wednesday morning PLC time due to all the other commitments of all the teachers involved.

What made these identified divisions between the music PLCs in the district particularly interesting was that there was overlap between personnel between various PLCs and buildings. For instance, even though Eric taught 7th grade band and some band lessons at South Middle School, he was not a regular member of that PLC due to his responsibilities as the assistant band director at the high school and schedule. The only times I observed Eric interact with the middle school PLC was briefly during a grading day, as he was on his way to pick up materials for the high school. While Carol shared that they would sometimes have to opportunity to ask Eric about the high school program, these were better characterized as sporadic question and answers rather than continuing conversations (personal communication, January 25, 2017). Even Derek, who taught orchestra in both middle schools in the district and frequented the middle school band PLC to discuss the Chicago trip, did not talk about the elementary and middle school orchestra PLC with the participants in any of the meetings I observed. Though Andrew

had picked up that the elementary and middle school PLC was focused on bow grips from informal conversations, the two PLCs otherwise had little knowledge of each other.

In one interview, Andrew expressed some hope that there could potentially be more open communication between the music PLCs in the Loon Lake school district. He remained hopeful that increased communication between PLCs could be nurtured; as he shared:

> Because I taught the elementary level and have relationships with all the teachers there and now I teach at the middle school and have relationships there, that there is an avenue to have more communication. So, there's still not a lot of communication with the high school, but perhaps that could develop in time. (Andrew, personal communication, November 16, 2017)

Stable membership of the PLC. The second of the four characteristics Hargreaves (1994) used to identify balkanized teacher communities was relatively stable membership over time. Of the four characteristics identified by Hargreaves, this was the least embodied by the Loon Lake middle school band PLC. At the time of this investigation, all members of the PLC had been together in the group for over a year. Betty and Carol had been members of the original middle school instrumental PLC that was incepted in the 2006-2007 school year along with two colleagues who had since retired. Derek, an orchestra teacher, had joined the PLC in the 2014-2015 academic year, and had left after the 2015-2016 academic year to join a middle school and elementary school orchestra PLC. Andrew joined the PLC during the 2015-2016 school year and took the place of one of the retiring teachers. Though the PLC had some recent changes

in membership, two out of the three middle school band PLC members had been in the group for ten years.

Singular identification within the PLC. Hargreaves (1994) stated that in a balkanized teacher community, a requisite characteristic was that the group share a defined identify (p. 214). Data from the present study clearly indicated that PLC members identified as middle school band directors. Though Andrew and Carol taught some sections of general music, it was clear that the participants' PLC focused exclusively on the middle school band program and identified as middle school band directors.

As the most senior member of the middle school PLC, Carol offered a unique perspective on the organization of the PLC into its current membership of exclusively middle school band teachers. Carol shared that when first introduced, the PLC was originally organized into two middle school music PLCs, including the choral, band, and orchestra teachers of each building. In an interview she shared:

> It was harder to be in a PLC where it was combined, like band, choir, orchestra, than it was to have just have instrumental music. Because there are certain things you can say, "Well this can be the same, these are the same concepts." But then to actually go about getting those to happen, there are a lot of differences between the choir, and the band and orchestra. (Carol, personal communication, December 20, 2016)

Part of the difficulties of the combined music PLC may have been the limitations of the SMART goals that each group had to complete each year. Since all PLCs in the Loon

Lake schools originally had to create common goals and assessments, finding common concerns across band, choral, orchestra, and general music classes proved challenging. In a follow-up interview with Andrew, he shared how the limitations of the SMART goal and common assessment administrative requirements made it more difficult to combine teachers across music areas and other subject areas. As Andrew described it: "To a certain extent, it's like when you have the art, band, and the phy ed teacher, it's some crap goal that has nothing to do with anything" (Andrew, personal communication, December 13, 2016). The division of the PLC into a separate cross-district middle school band PLC allowed the group to focus on issues more germane to middle school band. Carol thought the isolation of the middle school band teachers into their own PLC through the collective decision of membership was a positive development. In her words, "I think it was easier to be separate. I just feel like we've gotten more done as an instrumental group" (Carol, personal communication, December 20, 2016).

In a follow-up interview, Carol elaborated on some of the difficulties in working in a PLC of teachers who taught different types of ensembles. She described how the middle school band PLC had formerly included Derek, an orchestra teacher with a split assignment between North Middle School and several feeder elementary schools. While Derek had a friendly relationship with all of the other members of the PLC, he had selected to leave the PLC in order to meet with the elementary orchestra teachers two years prior. Carol recalled that she had worried that Derek was not always included in conversations, but added that "That's kind of what happened, because you have three band people and one orchestra" (Carol, personal communication, January 25, 2017).

Since three out of the four members of the PLC were band teachers, conversations would turn to issue specific to the band program that had little applicability to Derek.

Political aspects of the middle school band PLC. The final characteristic of Hargreaves (1994) used to identified balkanized teacher communities was a political complexion. As part of a larger whole, balkanized teacher communities compete with each other for resources, such as instructional time and funding that are limited within the greater school community. Within the balkanized community, teachers compete with each other, possibly for resources or to influence the group. Political aspects refer to these external and internal conflicts of interest in the teacher community. As Hargreaves stated:

> In balkanized cultures, there are winners and losers. There is grievance, and there is greed. Whether they are manifest or muted, the dynamics of power and self-interest within such cultures are major determinants of how teachers behave as a community. (1994, p. 215)

From this investigation, data suggested that the middle school band PLC members shared several concerns and acted upon them as a group. For example, the middle school band PLC often discussed concerns with the recruitment and retention of students in the band program at the expense of choir and general music. Within the PLC, there were some conflicting goals and interests between members about what the PLC should do and the direction of PLC conversations that conflicted with group's current practices.

One shared concern of the participants in the middle school band PLC was regarding enrollment in the middle school band program. An issue described by the

teachers and revealed in the PLC meeting observations was that the Loon Lake music school administrators wanted to students to be involved in the high school music ensemble classes rather than the high school general music offerings. Because of this, there was pressure on the middle school music teachers to recruit and retain students. The issue for the participants was that they had to balance the necessary rigors of a band class, with expectations of practicing, with the desire of students to take classes that were easier. In one conversation in the PLC meeting, the teachers discussed how to address the attrition of band students to the choir and general music classes, which were perceived by the students as being easier (observation, January 23, 2017). From this conversation, it became clear there was an underlying tension between the members of the middle school band PLC and the middle and high school choral PLC to increase their enrollments at the others' expense.

This tension was also confirmed in participant interviews. In one such conversation, Betty explained that since all middle school students were required to take a music class, there was competition between the band, orchestra, vocal, and general music teachers to recruit and retain students. Betty surmised the position of the band teachers as, "In band, in orchestra, we want them to practice, you know? And they go there [general music] and they don't have homework, and choir's like that too" (Betty, interview, December 13, 2016). Teachers also commented that the Chicago trip had been undertaken in part to help better recruit students from the general music classes to band (observation, January 23, 2017). Data from this investigation suggests that the actions

and concerns of the middle school band teachers to improve their student enrollment created a political aspect to the group goals of the PLC.

Though the middle school band PLC teachers shared many concerns and interests, there were less overt minor tensions between group members. Betty led most of the PLC meetings and both Andrew and Carol reported they were comfortable speaking up at any time. Carol shared her thoughts on the current PLC dynamic, "Everyone's open to listening to each other, which is good, because then if you do have a differing opinion you don't feel like you can't say anything" (Carol, personal communication, January 18, 2017). Though the current PLC members all agreed that the current group was fairly egalitarian, Andrew commented that there still was a sense that, "You kind of have to read the room as it were sometimes, and see when people want to discuss things or if they don't" (Andrew, personal communication, November 16, 2016). This desire to avoid confrontation in the group may have led to self-censoring, which may have allowed some individual agendas to provide greater direction to the PLC than others.

Summary of the second theme. Data collected in this investigation suggested that several of the characteristics of balkanization of teacher groups as described by Hargreaves (1994) were evident in the group. The middle school band PLC membership was clearly defined and separate from other music teacher PLCs in the Loon Lake School District. Membership in the PLC, though having had some changes in the past two years, had stability in Betty and Carol's membership which extended back to the formation of the PLC during 2006-2007 school year. There was a clear identity of *middle school band teacher* within the group. Finally, the middle school band PLC exhibited some political

aspects, chiefly the PLC's competition with the middle and high school choral PLC to recruit and retain students in the band program instead of the general music or choral programs. Collectively these features indicated that the middle school band PLC was to some extent balkanized, which as Little (2003) described, simply replaces isolated teachers with an isolated teacher group (p. 939).

Alignment of Teacher Values and Curricular Practices

Throughout the investigation, this concept of alignment was prominent in the interviews with participants. Participants used the term "aligned" to describe commonalities in their curriculums and classroom practices and the general agreement the three teachers had about the overall aims of the band program. The three teachers shared many values, teaching philosophies, and teaching practices, which they thought contributed to their similar classroom practices. As the participants described, there was also a push from the district administration to align the band programs at the two schools to create a "Loon Lakes Experience." Though all participant teachers frequently used word "alignment" in describing their relationships in the PLC, each took care to define that alignment did not equate to standardization. Every participant stated that within a PLC teachers did not need to agree on everything and that every teacher should have autonomy in their own classroom. Data collected from interviews with the participant teachers suggested that the teachers had more in common with each other than not, and the differences in their teaching philosophies and practices were generally minor. In interviews all participants expressed some concerns that the conversations in the PLC had

stagnated without new individuals bringing in new ideas and challenging the existing consensus of the group.

In the following section I first address the similarities and differences in the participants' expressed teaching philosophies and values. Next, I discuss the alignment of their teaching practices regarding repertoire selection and classroom routine. Finally, I address the teachers' views that their PLC discussions on teaching had become routine and stagnated.

Teachers' shared values. Through the course of interviewing each of the participants, our conversations turned towards their individual philosophies about music teaching. In comparing responses between participants, it was striking how similar the teachers' descriptions of their philosophies towards music education were. An emphasis on life-long music making, nurturing a love of music, and developing musicianship to set students up for success in the high school program were all brought up by participants as goals of the music program. While Andrew was the only teacher who discussed developing students' musical independence as a primary goal during an interview, from observing the meetings and reviewing past and present assessments developed by the PLC, it was clearly a goal shared by Betty and Carol. Recent goals developed by the PLC, such as increase student ability to correctly identify and perform key signatures and rhythms, were developed out of a desire to develop student skills to correctly execute musical passages without needing an instructor to provide a rote example or explain a concept.

All of the teachers wanted their students to enjoy music classes and music making. Betty's statement, "My biggest thing that I've always said is that I want kids to love music," was echoed by all teachers in the PLC (personal communication, December 13, 2016). Though all of the teachers wanted their students to enjoy band class, nurturing lifelong musical engagement with students was the greater goal for all of the participant teachers. In one conversation about this, Carol stated that she wanted her students "to love music, to want to continue to make it a lifelong-not necessarily something they have to play their instrument—I mean, it'd be great if they did—but just have that lifelong appreciation" (Carol, personal communication, January 18, 2017). Betty did expand upon the importance of students enjoying their school music experiences, as she believed that parent's own experiences with school music had a direct impact on student involvement in the school music program:

> If you have someone who values music and finds—and has that history where they know there's importance to it, they'll keep their kid in there. But if they come from where they don't have a real value of music or don't have a good experience with it, they're not going to be pushing their kids to remain in there when things get tough, as they do. (Betty, personal communication, December 13, 2016).

The "get tough" Betty referenced was the culture of increased academic rigor and standardized testing that in her experience tended to cause parents and students to abandon school music pursuits to focus on other academics. To Betty, providing positive

experiences for students was crucial to keep school music opportunities available to future generations.

Both Andrew and Carol described providing an aesthetic experience to students as a goal in their classroom. To Carol, the aesthetic and affective aspects of the music class were important for both music learning and engaging students. She shared:

> It's the affective part of it that I think keep kids involved. And even though you think how much can the younger students actually do expressively you still have to really make sure you really get that in the music and talk about it and get them to do what they are able at their level, because it really does help them to appreciate. You know, it's what they like about being in the class—and they don't necessarily realize that. There are some kids that are very technical and they're like, thrilled if they got all the rhythms and the notes and everything perfect, but I think for most kids it's like, "When we played together it was so epic." You know what I mean? That's the coolest part. (Carol, personal communication, January 18, 2017).

Like Carol, Andrew also believed that the affective experiences were a crucial component in the band curriculum. In one conversation, he elaborated that the experience of making music in an ensemble was itself of inherent value and importance. As he stated:

> There's also a part to music education in ensembles, not so much in the classroom, but in the ensembles, of being part of something greater than yourself. I mean, when I think of those experiences, those, um, aesthetic experiences that I've had

> with music, some of the highest ones were in ensembles (Andrew, personal communication, December 12, 2016).

Though affective and aesthetic experiences were identified by both Andrew and Carol, Betty did not explicitly mention these types of experiences in discussions of her philosophy. However, she shared her colleagues' views that positive ensemble experiences were an important part of the class.

Another shared value amongst the members of the PLC was a goal of developing lifelong musical engagement in students. In this endeavor, the teachers emphasized that connecting with students was crucial. Particularly in the general music classes taught by both Andrew and Carol, students had a wide range of musical tastes and expectations for their music class. Though connecting with students' musical backgrounds could prove challenging, Carol shared her optimism: "Who doesn't like listening to some kind of music? And so you just want to just reach those kids at some level" (personal communication, January 18, 2017). For Carol, this meant incorporating popular music into the curriculum or at the very least, sharing the connections between classical music and popular culture. In a separate interview, Andrew described how he engaged students in the general music classes through technology:

> My goal is to explore ways that they [students] can connect with and explore music in their lives that are not kind of the traditional ways. Because these are not the students who have elected to go down a performance path. They haven't had many years of learning notation—x and y and z. So I use more non-standard notation, do a lot of things that are more hands-on. Especially with the piano and

> the guitar—trying to pull up YouTube videos where they can kind of mimic—and that was one of those new notation kind of things—not necessarily notation, but where a student can watch someone's hands play. That didn't exist when I was growing up, and it's a different way one can learn music and I think it's something they can take with them a little bit longer. (Andrew, personal communication, November 16, 2016)

While there was a general alignment between the teacher's philosophies and values, there were some subtle differences. For example, all of the teachers stated that they wanted to prepare their students to continue playing in band into high school, but each teacher individually expressed slightly different concerns. Carol shared that:

> You have to balance out if you need to modify so they [students] can still do well, but—and even those kids, if they're behind or they struggle can still may go on to high school and do just fine. You don't want to kill that in them in middle school. (Carol, personal communication, January 18, 2017)

In interviews and in the observed PLC meetings, Betty related worries that the band program was continuing to lose students to choir and general music in particular. Speaking as a parent of a 6th grade student, Betty believed that the overall homework load expected of students presented a barrier to students. The situation was to the point that Betty stated:

> If I weren't a music teacher, that [band] would be the first thing that I would let go. It's like, 'okay, we can barely manage with our normal homework, so we're

> going to drop band and you're going to go to classroom music. (personal communication, December 13, 2016)

Though she was concerned about losing band students to other music classes with less demanding expectations, Betty maintained her grading standards and expectations for students. In one meeting she lamented that the refusal to lower expectations would not help students be successful in high school, but would likely lead to a few students in particular to drop out of band (observation, January 23, 2016).

Of the three teachers, Andrew was the one who expressed the least concern with student retention in the band classes. In interviews and in the PLC meetings he expressed a belief that a primary goal of the middle school band program to give students "an accurate representation of high school" (observation, December 7, 3016). Far from being callous to the struggles of students, he deliberately structured his classes to provide additional opportunities for students who may struggle to learn and develop their music skills. To Andrew, having students play through an exercise once was not acceptable practice. His teaching emphasized repetition as a way to give students additional opportunities to show their learning. As he shared:

> I think that chance to play through the book that second time catches some kids who, you know, they were just a little behind the pack. All of a sudden they can do it again and they get a second chance and can be a bit more successful. (personal communication, December 12, 2016)

Even though each of the teachers had slightly differing views on the importance of retaining students, they all expressed a desire to help each student be and continue to be successful in the program.

Complementing the general agreement about the aims of the band program was a shared value that disagreement between teachers was a healthy part of the PLC. This was a value that I observed regularly during my observations and repeatedly mentioned in interviews. During every PLC meeting I attended there was always a comfortable collegiality throughout discussions, even if there was disagreement about how to handle a particular teaching situation. There was a mutual understanding across the group that disagreement was okay, and even healthy for the group. All members of the PLC thought the group had a positive dynamic, as Carol shared, **"**I think what's cool is that we can—we don't always agree on what we think, but everyone's comfortable saying, 'I feel this way,' or, 'I disagree and I feel this way'" (Carol, personal communication, December 20, 2016). Andrew in particular found that disagreements between PLC members in some ways were the most valuable component of the PLC. He described these constructive conversations as, "They've always been respectful, and trying to understand the other person, and trying to get your point understood on the other side. Never anything to be antagonistic" (Andrew, December 12, 2016). As the youngest member of the PLC, Andrew shared that when he started teaching, the ability to respectfully disagree and argue with a colleague was beneficial for his own teaching. In his words:

> Particularly myself and another person who respected each other. We're both good educators, but we had different opinions on how to approach things,

> different pedagogical views. And we got to discussions that helped both of us defend, define, and refine our beliefs and our practices. I mean, it's good to be challenged. (Andrew, personal communication, November 16, 2016)

To conclude this section, the three participant teachers of the PLC shared many values and goals for the band program and for the PLC. All of the participants sought to provide students with enjoyable musical experiences, and skills to promote lifelong music making and to be successful in a high school band program. Though there were differences in opinions and views towards student retention and the affective and aesthetic components of the music class, there was a broad consensus on overarching goals in the band program. In the instances the teachers did not agree, the group had a clear norm of expecting healthy, respectful disagreement, and all participants viewed it as a positive aspect of the PLC.

Curricular alignment. In interviews with the participants, the alignment of their curriculum was repeatedly identified as one of the major accomplishments of the PLC. For example, all of the teachers used the same method books for each grade level, the same playing assessments for scales and etudes, and similar processes for selecting appropriate repertoire. A priority of the school district administration was to create a common Loon Lake middle school experience between the two middle schools. Within the middle school band PLC, the teachers felt they were successful in creating a common curriculum and student experience. As Betty described:

> One of the district's goals was to basically have so if a student were to leave West Middle School and go to East Middle School they would find a very similar

> experience. And, I think it is that way. I think if you go here and then you go over there you will find that, you know, some things will be different, but the core of the curriculum and what we assess will be the same. (Betty, personal communication, December 6, 2016)

When discussing the curriculum, the participants often referred to their shared use of the same method books, grading systems, and common assessments and rubrics. In observations of band classes in both schools, the instructors used the Standard of Excellence series of band method books in instruction. Another point of alignment was the grading system set up by the teachers. Though there was some minor variation between teachers, their gradebooks typically had six formative student assessments and six summative assessments a quarter, with concerts being counted as a summative grade item (observation, January 23, 2017). Summative assignments included items such as playing quizzes, which covered scales, rhythms, and excerpts that were to be completed by students outside of class and submitted online via the Loon Lake School District's Schoology learning management platform. The final component that participants' identified as aligning the middle school band curriculum within the district was the series of common assessments and rubrics developed by the PLC. Regardless of which school student attended or grade level, all Loon Lake band students were graded on scales, rhythms, and other performance assignments on identical rubrics.

In addition to the items the PLC teachers identified as aligning their curriculum, the data collected from teacher interviews revealed similarities between the teachers' processes for selecting repertoire. All three participants expressed similar concerns about

selecting repertoire for their ensembles. Their primary concerns were that the repertoire should reinforce the content being covered in their method book. In separate interviews, teachers described selecting music for the bands based on musical features such as specific rhythmic figures, key signatures, time signature. Additionally, concerns such as including a variety of repertoire, such as works emphasizing lyrical playing or technical challenges, were articulated by the teachers. Finally, all three teachers expressed that choosing music students would enjoy was an important part of the repertoire selection process. All of the teachers also expressed no qualms about repeating selections year to year, and pieces like *The Tempest* and *Theme from Mission Impossible* were identified as being frequently preformed. From these interviews, the data suggested that while the teachers' specific selections of repertoire were different, they all chose repertoire to reinforce the concepts being covered in the method books they believed students would enjoy playing.

Though the teachers agreed that their curriculums and classroom practices were aligned, they viewed this as both a positive and negative development. The teachers felt they had successfully created a "Loon Lakes middle school band experience," but also expressed concern that their PLC had lost focus. As the group had already created many of their common assessments and rubrics, the teachers felt there was less pressure to focus their time in the PLC on their student learning goals. Without the need to create or revise assessments, rubrics, and curriculum the teachers described their PLC as focusing more on the departmental business matters than on student learning. In interviews with participants, this development was often referred to as the "stagnation" of the PLC.

Teachers' concerns about curricular alignment and stagnation. During my interviews with participants, the teachers described their curriculum as aligned, but they also voiced concerns that having an established common curriculum in some ways stifled discussions about curriculum and teaching. While the participants all emphasized their past work aligning the curriculum and student experiences across the Loon Lake middle school band programs, they also noted that they felt their PLC work had stagnated. Once the PLC had developed their goals, and created the common curriculum and assessments, the participants expressed that they felt the PLC did not focus on those student-learning components as much as they once had. In an interview, Carol shared, "I feel like we haven't changed a lot in last couple years with exactly how—you know, as far as like, 'what's a new way to assess?'" (Carol, personal communication, January 25, 2015). As Betty described, "Our PLC right now—you know, I feel like we don't have as much to do anymore because we're so established" (Betty, personal communication, December 6, 2016). In a follow-up interview, she explained that in her PLC experience, "You just kind of get stuck into what are we doing, what works for us" (Betty, personal communication, December 13, 2016). To Betty, once the PLC had aligned their curriculum and assessments, those aspects became routine, and the PLC shifted towards other matters more pressing to the teachers, such as the Chicago trip.

Andrew corroborated his belief that the conversations in the PLC had stagnated. In an interview, Andrew shared his belief that the conversations within the PLC meetings had become repetitive. In his words:

> After you discuss certain things after so many years, what's left is kinda like, "All right we have the band festival coming up, what else?" Because you've had a lot of those conversations. (Andrew, personal communication, January 23, 2016)

The other participants also shared that they had reached a point where conversations about pedagogy seemed to be redundant. Betty shared that concern and noted that part of the reason it seemed that conversations focused on Chicago or other topics further removed from student learning was that there was not much else to talk about. As Betty described, "Like Carol and I have worked together forever and I know what her opinions are and I know exactly where she's going to be on some of her opinions" (Betty, personal communication, December 13, 2016).

It was interesting to find that in interviews with all three of the participants, each articulated a desire to bring in new ideas and voices to the PLC as a way to help drive conversations forward. Participants offered suggestions like having the Loon Lake music PLCs reorganize into a single 5-12 band PLC as a means of driving discussion and transferring ideas. These changes would not necessarily have to be permanent, but rather on a revolving basis. In one interview, Betty mused, "Would we benefit from mixing it up? Sometimes you wonder if you could rotate every few years to bring in some new ideas." (Betty, personal communication, December 13, 2016). Andrew agreed with his colleagues that an influx of new ideas could benefit the group, but also expressed some reservations that simply bringing in new members would not automatically improve the PLC:

> Having a certain percentage of new folks in there keeps it fresh and keeps new ideas coming. And I think that it's happened a little bit with me coming in… but I think it's also so much the makeup. You know, you have people really interested in talking about student learning. (Andrew, personal communication, December 12, 2016).

Bringing in new voices to challenge the status quo could help the PLC members to keep a focus on student learning, but as Andrew articulated, those individuals must have the right disposition in order for their addition to benefit the PLC in its purpose of improving practices.

Summary of the third theme. Data from this investigation indicated that were many similarities between participants' teaching approaches and their classroom practices. All of the teachers valued fostering lifelong musical involvement in their students and wanted to prepare their students to be successful in the high school band program. Though all of the teachers agreed on many things, they all articulated a strong belief that disagreeing on how to teach was okay, and none of the teachers expressed any reservations about deviating their teaching practices from their colleagues. The three teachers had created a shared curriculum between the two middle schools, which included several assessments that were given to all students in both programs. While teachers had several identical items in their gradebooks, each teach took some small liberties in creating their own unique class experience. Each of the participants in the study commented that they were concerned that all of the similarities between their

classrooms had caused their PLC to stagnate, and that an infusion of new ideas would be beneficial to moving the PLC forward in improving student learning experiences.

Chapter Summary

In this chapter, I presented the findings from the investigation. The purpose of this case study was to investigate how involvement in an existing autonomous PLC affected K-12 music teachers and their classroom practices. A case study design was implemented for this study due to its suitability to answer the research questions. Findings and analysis for this investigation were drawn from data collected in three interviews with the three participant teachers of the PLC, three observations of the PLC meetings, a teaching observation of each of the three participants, and a collection of sample assessments, rubrics, and assignment guides developed by the participant teachers.

Data indicated that the participant teachers devoted time in their PLC to what they perceived to be the most immediate needs of the band programs. These needs were not always relevant to student learning, and thus a great deal of time in the PLC meetings did not align with the PLC framework of DuFour et al. (2008). Though this time spent discussing non-learning related matters, such as planning for events within the department, the teachers still found the PLC valuable.

In addition, data revealed the members of the PLC were balkanized and had little communication with other music PLCs in the district, and the scope of their work in the PLC was limited compared to other accounts of music teacher PLCs (Kastner, 2014; Sindberg, 2016; Stanley, 2009). The Loon Lake middle school band PLC embodied the characteristics of a balkanized teacher group as described by Hargreaves (1994), having

clear boundaries, stable membership, a shared identity, and a political complexion. In practice, the Loon Lake middle school band PLC often had little interaction with other PLCs, even when participants thought coordination could have been beneficial. In addition to the balkanization of the PLC, the way the school district had prescribed goal setting and peer-teaching observations in some ways limited the scope of the PLC. Loon Lake Public Schools had a system for teachers to be observed by their peers, but oddly teachers within a PLC were not given the opportunity to do so. The music teachers had chosen goals that fit within the school district's SMART goal parameters, but these PLC goals were very narrow and did not speak to the greater goals the music teachers in the PLC had for student learning in music.

A final theme of the investigation is that the teachers of the PLC shared many of the same values for music education, and they had created a common curriculum for middle school bands in the Loon Lake district. While the teachers cited the alignment in their programs as one of the primary benefits of the PLC model, they also commented that the PLC conversations had stagnated. All of the participants articulated a desire to add new voice to the PLC conversations to reinvigorate discussion. After working together for so long, participants noted that routines get established, conversations drift towards matters other than the focus of the PLC as members don't want to repeat the same conversations. In the following chapter, I discuss the conclusions from this investigation and implications for future research.

CHAPTER 5

DISCUSSION

Introduction

In this chapter I present the conclusions drawn from the data analysis presented in Chapter Four. I begin with a review of the rationale for the study, the purpose of this study, and the research questions. Following this, I summarize the findings of this investigation as they pertain to the three research sub-questions followed by the main research question and connect these findings to previous scholarship. Concluding this chapter is a discussion of implications this study has for the field music education and suggestions for future research.

Review of the Rationale for the Study

Increasing teacher effectiveness has become a prominent concern in contemporary education policy (Darling-Hammond, 2010; Lewis & Young, 2013). Researchers have identified the professional development of teachers as one of the most effective means to improve teacher quality (Barrett, 2006; Cohen & Hill, 2000; Conway & Edgar, 2014; Stanley, 2011; Wei et al., 2010). An increasingly popular model for teacher professional development is the professional learning community (PLC), collaborative groups of teachers focused on teacher development as a means of improving student learning (Darling-Hammond et al., 2009; DuFour, DuFour, & Eaker, 2008; Vescio et al., 2008; Stanley, 2011). PLCs provide teachers with professional development experience that are focused on their own curricular needs which can lead to improved classroom practices (DuFour et al., 2008; Vescio et al., 2008).

In music education, research literature indicates that music teachers prefer professional development opportunities specific to music teaching rather than other forms of professional development (Conway & Edgar, 2014; Gallo, 2015). However, collaborative models such as PLCs are not as commonly used by practicing music teachers as other forms of professional development such as workshops and conferences (Bauer, 2007; Bush, 2007; Conway & Edgar, 2014). As research suggests, prolonged professional development activities are more effective at changing teaching practices, and it has been argued that ongoing collaborative models of professional development like PLCs provide more meaningful experiences that participation in isolated workshops (Darling-Hammond et al., 2009; Hookey, 2002; Garet et al., 2001; Stanley, 2011). Researchers who have investigated individual PLCs of music teachers found participants have mostly positive experiences (Gruenhagen, 2007; Kastner, 2014; Sindberg, 2016; Stanley, 2009). These investigations into music teacher PLCs examined groups that were initiated and led by the primary investigator, a research design that Vescio et al. (2008) argued may not accurately reflect the PLC experiences of K-12 educators in the field. Since PLCs were originally envisioned to be autonomous and led by participating teachers rather than an outside facilitator, investigation into autonomous PLCs is needed to better understand the impact of the professional development model on K-12 music teachers and their classroom practices.

Review of the Purpose of the Study and Research Questions

The purpose of this case study was to investigate how involvement in an existing autonomous PLC affected K-12 music teachers and their classroom practices. I

investigated an autonomous PLC of music teachers to better understand how participation in the PLC affected the teachers and their classroom practices. Three research sub-questions directed this inquiry:

1. What knowledge and/or supports do teachers gain from their PLC experiences?
2. What organizational supports and leadership are in place for these PLCs and how do they relate to teacher and classroom outcomes?
3. How do teachers use knowledge and/or supports from their PLC in their own teaching?

In the following sections, I review and discuss the findings for each of the research sub-questions, and then summarize the findings of the main research question.

What knowledge and/or supports do teachers gain from their PLC experiences?

All three members of the Loon Lake Middle School Band PLC held positive views of their PLC and PLCs in general. Participants enjoyed having the opportunity to regularly meet and converse with their colleagues. In addition, PLC meetings provided a place for members to share their frustrations and anxieties with understanding colleagues for catharsis or to find support. While participants expressed their beliefs that participating in the PLC improved their teaching, they found it difficult to identify specific ways in which the PLC influenced their teaching practice. Participants in this study identified the opportunity to meet and talk with their colleagues about their teaching and other job-related concerns and the emotional supports provided by other PLC members as benefits to PLC participation. When asked about specific knowledge or ideas that may have been learned in the PLC, the participants in this study commented

that it was often difficult to recall whether an idea came from the PLC or elsewhere. In the following sections, I discuss the two supports described by the teachers and the challenges the teachers had in attributing specific knowledge and ideas to the PLC.

An opportunity to discuss Loon Lake middle school bands. During the interviews, participants commented that one of the most important things the PLC afforded them was an opportunity to talk with other middle school band teachers. When asked about what she thought about implementing the PLC, Betty commented:

> I really like it. I think it's a nice component where we can talk, you know? And just have a time to share, which you never had before. And even if it isn't always about curriculum, even if it's just about, 'hey, I'm struggling with my 6th graders this year, and, man, I can't get them to do this, do you have any ideas about that?' (Betty, personal communication, December 6, 2016)

Both Andrew and Carol shared similar opinions to Betty's that the opportunity to have a dedicated time to meet and converse with colleagues was one of the most beneficial aspects of the PLC. These data corroborate the findings of investigations by Bush (2007) and Conway (2008), who documented that music teachers identified informal conversations with colleagues as important sources of professional development. Participants in the current study also commented that they enjoyed their PLC because it was focused specifically on music teaching. Previous investigations of music teacher PLCs by Gruenhagen (2007), Sindberg (2016), and Stanley (2012) also found that participants viewed the opportunity to collaborate with colleagues in a PLC as a positive and valuable experience. Data from this study provide additional evidence that the

opportunity to collaborate with other music colleagues can provide music teachers with a rewarding professional development experience.

Stanley (2011) argued that professional learning groups of music teachers who all taught the same area (e.g. band, choir, or general) and grade level and meetings between teachers of different areas or grade levels both offered advantages to teachers. The participants in this investigation expressed preferences to have their PLC focused on band rather than collaborating among band, choir, and orchestra. Though their PLC was only comprised of middle school band teachers, each of the teachers in Loon Lake middle school band PLC shared that they would like to meet as a 5-12 band PLC to address vertical alignment of their curriculum. This concept was addressed by Stanley (2011), who identified that "vertically aligned CTSG [collaborative teacher study groups] with music teachers from several schools and grade levels would be powerful in terms of strengthening the intradistrict communication and curricular organization" (p. 76). Though Stanley suggested that vertically aligned PLCs can provide rich and rewarding professional development experiences for teachers, there has been little research into such PLCs in the field.

While Sindberg (2016) investigated a music teacher PLC that included music teachers from multiple grade levels and teaching areas, the PLC she studied was focused on implementing the Comprehensive Musicianship through Performance (CMP) model into their classrooms. Furthermore, Sindberg served as the guiding facilitator of the participating PLC in addition to the role of researcher. Unlike PLCs investigated by Kastner (2014) and Sindberg (2016), the PLC in this study was not focused on

implementing a common curricular framework or specific strategies. Instead, the members of PLCs in Loon Lake Public Schools had autonomy to choose their own goals and strategies for collaborating each year. In this investigation, participants shared that developing common goals between teachers of different areas proved challenging, and over time the music teachers in Loon Lake Public Schools had self-selected to split into PLCs based on teaching areas and grade levels. Though Stanley (2011) stated that different group membership compositions may provide unique benefits to the PLC collaborations, evidence from this study suggests that teachers of similar areas and grade levels may find it easier to find common ground with their colleagues and feel like working in such groups is more productive.

One aspect the participants noted about their PLC conversations compared to other professional development opportunities was that they could focus on their own students and classrooms. Unlike other types of professional development experiences, in this PLC they only had to concern themselves with their own students and classrooms. Andrew stated that, while going to conventions and grad classes offered opportunities to learn about new ideas, conversations in the PLC felt more relevant and practical to improving his own teaching (personal communication, December 12, 2016). Such comments reinforce the assertions by DuFour & Eaker (1998) and DuFour et al. (2008), who argued that one of the benefits of the PLC model for professional development is that the teachers have more autonomy in the process and can tailor their collaborative efforts to address the unique needs of their students.

A place for catharsis. In addition to providing participants an opportunity to share ideas, the Loon Lake middle school band PLC also served as a place for the teachers to disclose their frustrations and celebrate their successes. The PLC was a safe space to share grievances about funding, student behavior, administrative policies, and/or the lack of support for said policies. For example, in one PLC meeting Betty shared several concerns she had from a recent conversation with an administrator (observation, January 23, 2017). As Betty shared her worries about recruitment and enrollment of band student, Andrew and Carol lent a sympathetic ear (field notes, January 23, 2017). The PLC meetings provided an opportunity for teachers to get some emotional support from their colleagues, which Bell-Robertson (2014) and Sindberg (2016) also identified as a significant benefit to music teachers' PLC participation. The importance of emotional supports found in PLCs for teachers has been argued by some scholars to be equally, if not more important than supports for developing teacher knowledge and classroom practices (Bell-Robertson, 2014; DeWert et al., 2003; Duncan-Howell, 2010; Lieberman & Miller, 2008). Data from this investigation provided further evidence that teachers valued the emotional support provided by a PLC.

Evidence of teacher learning in the PLC. When I asked participants about what they had learned from the PLC conversations, they had difficulty responding. In one interview, Andrew expressed a central problem to answering this question: "It's hard for me to pull specific things out from PLCs through the years versus things I've seen in conferences or read in books, because it all goes into one giant pool of knowledge" (Andrew, personal communication, January 23, 2017). Carol also commented that it was

difficult to identify what she had learned from the PLC as opposed to other conversations or hearing her colleagues at North Middle School teach their own classes. Though she noted that it was difficult to recall pedagogical knowledge shared in the PLC meetings, Carol stated that she learned a lot about how to use the Schoology® software to write rubrics for her band assignments from some of her former colleagues in the PLC (Carol, personal communication, January 25, 2017).

Other researches have also found that participants can struggle to describe how professional development influenced their teaching. In an investigation of the impacts of a Master's in Music on music teachers, Conway et al. (2009) found that participant teachers struggled to identify specific ways in which their graduate studies changed their classroom practices. Investigations that examined professional development outcomes in music education often established clear outcomes at the onset of the study. For example, Kastner (2014) and Sindberg (2016) were primarily concerned with how participant teachers in a PLC incorporated specific teaching frameworks (informal music learning, and Comprehensive Musicianship through Performance, respectively) into their teaching. Comparatively, Bauer et al. (2003) and Reese et al. (2002) examined how music teachers used of technology in their teaching after music technology professional development workshops. Unlike the previously mentioned professional development opportunities, the Loon Lake middle school band PLC did not intend to adopt a specific teaching framework or strategies. Though the participant PLC in this investigation had a formal goal of improving students' abilities to read and apply key signatures, the group had set other goals in previous years, and a significant portion of their PLC meeting time was

spent discussing other topics. It may be that professional development opportunities that are not designed for specific outcomes present difficulties for teachers to identify how the professional development experiences impact their teaching.

Even though the participants at times struggled to articulate how participating in the PLC grew their knowledge and classroom practices, observations of the PLC meetings revealed instances in which participants learned new teaching ideas from colleagues. For example, during the first PLC meeting I observed, the teachers discussed how they had students use iPads for music theory activities in each of their classes. During this conversation, Andrew realized he was the only one who used Apple Classrooms, a classroom management app for iPads, and introduced his colleagues to the software and offered suggestions from his own classroom (field notes, December 7, 2016). At another meeting the participants argued about the merits of formative and summative grading assignments (field notes, January 23, 2017). This debate arose from Betty's voiced skepticism that students benefit from having formative assignments (e.g. homework) count towards their grade as opposed to summative quizzes and tests. Carol and Andrew argued that by holding students accountable for homework, students will be more resilient "when they get to the point where they aren't able to just do it" (observation, January 23, 2017). By the end of the conversation, the group reached a muted consensus that assigning homework was better for students than allowing students to take only summative assessments. Learning in the Loon Lakes middle school band PLC may have been less organized and deliberate compared to the more structured PLC meetings investigated by Kastner (2014) and Sindberg (2016) since the meetings

themselves had little formal structure. The lack of formal structure to share ideas in the Loon Lakes middle school band PLC may have contributed to the difficulty participants had in identifying specific ideas gleaned from their PLC experience.

Summary of findings of the first research sub-question. The first research sub-question was about the knowledge and/or supports teachers gain from the PLC experience. Data from this investigation corroborates pervious findings from Bush (2007) and Conway (2008) that informal conversations can provide meaningful opportunities for professional development. The PLC meetings provided participants a forum to share concerns and frustrations with a sympathetic group of colleagues who could provide emotional support, which Bell-Robertson (2014) and Sindberg (2016) identified as an important support provided in PLCs. Though participants stated that participating in the PLC impacted their knowledge and practices, each of the teachers struggled when asked to identify specific ways the PLC influenced their own teaching. It may be that professional development activities that do not have a singular objective, such as implementing a curricular framework or incorporating technology into instruction, allow for a less systemized transfer of ideas that can make it more difficult for teachers to attribute where they learned specific information. While teachers in the current study struggled to name specific ways they participation in the PLC had improved their knowledge or practices, data from this investigation suggested that teacher learning and sharing of practices occurred within the PLC.

What organizational supports and leadership are in place for these PLCs and how do they relate to teacher and classroom outcomes?

Interviews with the participants in this investigation revealed several factors of organization and administration that impacted the PLC to varying degrees. These included participant self-selection into the PLC, formal supports from the school administration, opportunities to deprivatize practice, and ability to set student learning goals that were relevant to the middle school band curriculum. Within the middle school band PLC, the members had self-selected to form the group, and all members of the PLC felt they had the opportunity to lead the discussions. Participants also indicated that the Loon Lake School District administration provided supports such as PLC workshops, online resources and references for PLC best practices, and teacher instructional coaches (TICs), who were available to come in to guide, supervise, and/or mediate the PLC meetings if needed. Though the participants identified several administrative supports, they noted that their PLC rarely felt the need to seek these resources, and they were not used at any point during my observation of the PLC meetings. The teachers also shared that the administrative structure of the school district impacted their abilities to observe their colleagues teaching. While scholars such as DuFour et al. (2008), Newmann et al. (1996), and Stanley (2011) argued that deprivatizing teaching practices was an important component of effective PLCs, the teachers in this study commented that they did not have the opportunity to formally observe each other's teaching. A final factor that the participants identified as an important part of administrative support was that they were allowed to select PLC goals germane to their band classes, as opposed to having to focus

their PLC work towards goals related to improving students' math or reading abilities. In the following section, I discuss the supports both within the PLC and outside of the PLC that impacted teacher and classroom outcomes.

Elective participation in the PLC. Andrew, Betty, and Carol *chose* to participate in the middle school band PLC and reported that they felt comfortable asking questions, leading discussions, and disagreeing within the group. In observations of the PLC, I found that Betty often initiated the discussion, but both Andrew and Carol were able to voice their opinions and lead discussions when they wanted. These data suggest that the Loon Lake middle school band PLC had successfully established a fluid hierarchy within the PLC, which Grossman et al. (2000), Gruenhagen (2008), and Stanley (2011) identified as conducive to positive and meaningful PLC experiences.

As all of the PLC members taught middle school band within the same school district the teachers were able to discuss issues specific to their own teaching needs within the PLC and collectively develop common curriculum and activities that were applicable to the classroom settings of all three teachers. Participants identified their similar teaching assignments as contributing towards the coherence between their PLC work and their classrooms. The participants' clearly expressed thoughts that the PLC was meaningful because it was focused on music teaching corroborates previous research that indicated music teachers prefer profession development opportunities specific to music education (Bush, 2007; Conway, 2008; Friedrichs, 2001; Hesterman, 2011).

Formal administrative supports for the PLC. My investigation found little evidence that the formal supports provided by the Loon Lake School District to the PLC

had a significant impact on the PLC. Participants reported attending an annual PLC training session provided by the district administration at the beginning of each year. The teachers described this meeting as a brief introduction to the district's PLC expectations. Andrew described it as, "a 50-minute meeting about what the PLCs are and the PLC process" (Andrew, personal communication, December 12, 2016). The minimal amount of training teachers had about the PLC was actually reflective of the suggestions of DuFour et al. (2008), who stated that an overemphasis on training was a potential hindrance to effective PLCs. DuFour et al. (2008) argued that time spent learning to collaborate was better spent actively participating in the PLC process. They cautioned, "Beware of substituting training, reading, or planning for *doing* [emphasis orginal] the work of PLCs" (DuFour et al., 2008, p. 415). To help teachers in their PLC work, DuFour et al. recommended targeted assistance in helping teachers implement strategies or answer specific questions as they emerged. From my investigation, it appeared that the Loon Lake Public Schools administration followed these recommendations by DuFour et al. to focus less on formal PLC training and more on providing ongoing support for PLCs. In addition to the workshop at the beginning of each year, the participants in this study identified several additional supporting resources that were available to them throughout the school year.

One such resource was an online repository of documents and guides the teachers could access through the school district website to help guide the PLCs. In one interview, Andrew shared several online forms and resources that ranged from recommendations for goal setting in PLCs to conflict management. All of these resources were available to all

faculty members at all times through the district website (field notes, December 12, 2016). Though these forms were freely available, at no point in any of my observations were any of these forms or resources used or referenced by the teachers in the course of the PLC meetings. Furthermore, participants' comments about these online resources indicated that these supports had been rarely needed or used by the PLC membership.

Another support for PLCs within the Loon Lake School District was a group of teacher instructional coaches (TICs). These individuals were classroom teachers who were placed on special assignment after completing additional training provided by the district. Teachers served as a TIC for a single three-year term, after which they returned as regular classroom instructors. Every PLC was assigned a TIC by the district administration, and TICs advised and reviewed the annual goals formed by each PLC. While some PLCs were assigned a TIC whose classroom teaching experience was similar to that of the PLC members, this was not, nor had ever been the case for the middle school band PLC. In an interview with Betty, she discussed that the assistance offered by the TICs had always been rather limited. She characterized the current and past TICs of the middle school band PLC as, "They're all classroom teachers, and many of them have never had music or know much about music so helping us in that format can be more of a challenge for them" (Betty, personal communication, December 6, 2016).

The fact that the TIC of the participants' subject-specific PLC was not a specialist in music education presented an interesting dynamic in the PLC. There is a significant body of scholarship that indicates teachers prefer professional development experiences that are specific to teaching within their content area (Darling-Hammond et al., 2009;

Garet et al., 2001; VanDriel & Berry, 2012). Within music education scholarship, findings confirm that music teachers prefer professional development opportunities specific to their content area (Bauer, 2007; Bush, 2007; Conway, 2008; Friedrichs, 2001; Hesterman, 2011). Though Grossman et al. (2000) found that tensions can arise in a PLC due to conflicting interests between teachers of different content areas, the Loon Lake middle school band PLC did not appear to have any tensions negotiating the difference in backgrounds between the participants and their TIC.

As the Loon Lake middle school band PLC's TIC was not a music specialist, this study presented an interesting distinction from previous music teacher PLC investigations. In previous studies by Gruenhagen (2007), Kastner (2014), Sindberg (2016), and Stanley (2012), the lead investigator, a music education specialist, also served as the facilitator for the PLC and led each PLC meeting. In contrast to these studies, the TIC assigned to the Loon Lake middle school band PLC at the time of this study was a former math teacher, and only sporadically attended meetings of the PLC. All of the participants commented that the TIC for their PLC was rarely involved in the PLC meetings, and when the TIC was present, she was involved in a limited capacity. Andrew described that the extent of the PLC TIC's involvement:

> As we're writing our SMART goals they'll just kind of go around and check to make sure everyone's on track, has a plan, and doesn't need any support, and following up, maybe on grading days, or as the end of the year comes around and we're submitting our SMART goals for completion. (Andrew, personal communication, November 16, 2016)

In my observation of the PLC meetings, the TIC of the PLC never visited the group, nor was she mentioned in any of the discussions. The infrequent interaction between the middle school band PLC and their assigned TIC was confirmed in interviews with participants. Though the PLC seldom interacted with their assigned TIC, all of the members were in agreement that the TIC was always available to come by if they wanted to set up a meeting. In practice, the PLC members shared that they never felt a particular need to have their TIC come by to mediate or offer guidance. As Andrew described, "I've always been a part of very self-sufficient PLCs, so it's—we've never necessarily needed to schedule things as much" (Andrew, personal communication, December 12, 2016). Though DuFour et al. (2008) commented that negotiating conflicting ideas is an inherent part of the PLC and researchers like Grossman et al. (2000) found tensions between members can threaten the sustainability of a PLC, data from this investigation suggested that the PLC members had no difficulties in talking through differences. As discussed in Chapter 4, participants in the PLC shared many similar teaching values, which may have led to few conflicts in the group and precluded a need for outside mediation from their TIC.

Few opportunities to deprivatize practice. One issue raised by participants was that they did not have the supports they wanted to observe each other's teaching. Researchers including DuFour et al. (2008), Newmann et al. (1996), Stanley (2011), and Vescio et al. (2009) stated that PLCs should deprivatize classroom practices. Stanley (2011) recommended that music teachers in PLCs review each other's teaching. Within the music teacher PLCs investigated prior to this study, review of classroom video

samples of teaching were an integral part of the PLC (Kastner, 2014; Sindberg, 2016; Stanley, 2012). The PLC that participated in this investigation did not engage in these practices of peer review of teaching. Though the TIC of the middle school band PLC was minimally involved with the PLC through the year, this individual was responsible for conducting teaching observations of all PLC members. In Loon Lake Public Schools all of the teachers in the PLC were required to be observed by another teacher three times a school year. For the middle school band PLC members, the assigned TIC for their PLC conducted all teaching observations related to teacher evaluation and professional development. Considering the importance of deprivatization of teaching practice in the literature on best PLC practices, it was interesting that participants' teaching observations had little to do with their PLC. While teachers who participated in PLCs investigated by Kastner (2014), Sindberg (2016), and Stanley (2012) reviewed video of each other's teaching as part of their PLC meetings as a means to spark discussion and reflection, these practices were not part of the Loon Lakes middle school band PLC.

According to the participants, the disconnect between the PLC and teacher observations was partly the result of the administrative structure of Loon Lake Public Schools. Andrew described the organization of PLCs and teacher observations as being a part of separate division in the administration known as Q Comp committee. In his words, "there's a whole Q Comp department at the administrative offices of the district offices" (Andrew, personal communication, November 16, 2016). The title for this administrative division came from the statewide program Q Comp, which provides funding for school districts that meet certain PLC, teacher evaluation, and merit pay

requirements (Minnesota Department of Education, 2016b). Even though the same TIC conducted the teaching observations and worked with the PLC, Andrew commented that the state funding for teaching observations and PLCs was separate, which was why they were treated as separate activities in the Loon Lake school district.

Though the PLC teachers were all experienced band teachers, interviews revealed that the teachers did not formally observe each other's teaching to give and receive feedback. Instead, that role was filled by the TIC, who was a teacher with a background in a different content area. Andrew described the teaching observations as: "not as content specific. I think they look for more student engagement in the classroom, general feedback" (Andrew, personal communication, December 12, 2016). The teachers in the PLC all expressed a desire to observe other music teachers and receive feedback from other music teachers who observed their teaching. Betty was unequivocal in voicing her preference: "I want to observe somebody or have them observe me I want a band person. 'Cause that's what I do and that's what I want to learn from" (Betty, personal communication, December 6, 2016). It was interesting that the participants in this investigation did not just record their own classroom teaching to share and review with colleagues during their PLC meetings to address their desires to get feedback from individuals familiar with their content area.

While scholars such as Kastner (2014), Sindberg (2016), and Stanley (2009) found that music teachers reported benefiting from experiences of observing and peer critiquing colleagues, whether through in-person or videorecorded observations, such experiences were not observed in the Loon Lake middle school band PLC. Considering

researchers' assertions that deprivatizing practices are critical to improve teacher practices (DuFour et al., 2008; Newmann et al., 1996; Stanley 2011; Vescio et al., 2009), it is noteworthy that the Loon Lake middle school band PLC members did not observe each others' teaching as part of their work in the PLC. I found it interesting that the teachers did not mention recording their lessons to discuss in the PLC in their interviews. It was also intriguing that the TIC who regularly observed the participants' teaching did not initiate conversations about what she saw in her observations of the participants in their classrooms in her role as facilitator to the PLC.

Restrictions on the PLC goals. Another administrative issue brought up by the participants was that the parameters for PLC goals set by the building level administration had been constricting at times. Participants shared that they had previously been restricted to focus their PLC on a student-learning goal that directly related to a math or reading goal determined by the building level administration. According to the participants, this restriction inhibited their ability to create goals germane to their own classrooms and necessitated devoting time to craft arguments for why and how their subject content was related to school-wide math and/or reading goals. It was not surprising that the Loon Lake Public Schools administration was concerned with student performance in these subject areas, since math and reading are two of the primary subjects covered by the Minnesota Comprehensive Assessments (MCAs), the state-wide standardized assessment for K-12 schools (Minnesota Department of Education, 2016c). The results of MCAs are used as a factor in funding decisions for schools participating the statewide Q Comp program, which the Loon Lake School

District was in. As Robinson (2016) argued, the preponderance of standardized test data in K-12 education has emphasized certain subject areas such as math and reading. School administrators' concern with school performance on these tests can result in practices that marginalize non-tested subject areas to benefit tested ones. In this environment, music teachers can be coerced into practices that do not align with their professional beliefs (Robinson, 2016; p. 20).

Though the teachers shared that in the initial years of the PLC all of their goals were required to relate to school-wide reading or math goals, they all commented that the school administration had recently loosened this requirement. As Betty remarked in one interview, "Now we can do what works for us and what our students' need. And some years it wasn't always that way. We had to do what the district wanted but not necessarily what we needed to do" (Betty, personal communication, December 6, 2016). The sentiment shared by Betty supports the idea that meaningful professional development activities like a PLC need to be relevant to teachers' classrooms if they are to meaningfully impact practice (Darling-Hammond et al., 2009; Garet et al., 2001; VanDriel & Berry, 2012). It was not surprising that the teachers preferred having the opportunity to select student-learning goals for the PLC based on content germane to their music classes, as prior research has clearly indicated teachers prefer professional development that focuses on music-specific content (Bush, 2007; Conway, 2008; Friedrichs, 2001; Hesterman, 2011).

Even though the teachers had been given greater freedom to choose their own goals, the requirements of measurement and time proved to be limiting factors. In an

interview, Andrew discussed that in crafting a PLC goal, "What is difficult is it has to be that measureable, that concrete aspect, versus—you know, we want talk about how to increase students' understanding of form" (Andrew, personal communication, December, 12, 2016). To Andrew, part of the limitation of the goals was due to the requirement that goals had to have quantitatively measureable outcomes. Betty suggested another reason why the PLC continued to choose limited goals, "We're so busy with everything that sometimes with our goal I feel like with our goal we maybe take the logical, easy way out when we never explore new things we could do" (Betty, personal communication, December 13, 2016). This exemplified a problem addressed by Robinson (2016), "The things we choose to measure are often chosen not for their value, but because they are easily measured" (p. 19). With the teachers juggling multiple responsibilities such as organizing concerts, the Chicago trip, instrumental lessons, and additional meetings on top of their class schedules, the decision to pick a single goal for the PLC would help keep their workload manageable, though it may not have served in the best interests of guiding professional growth.

Summary of organizational supports and leadership of the PLC. There were several administrative structures and supports for the Loon Lake middle school band PLC that had a positive impact on the participants. The teachers enjoyed having the ability to choose their own PLC groups, which helped the teachers focus on issues pursuant to their own teaching. While the Loon Lake Public Schools administration provided several supports for PLCs including an annual training session, online resources, and a TIC to facilitate the PLC on an as-needs basis, these supports encouraged PLCs to engage in the

PLC process rather than overemphasize training (DuFour et al., 2008). While researchers such as Newman et al. (1996) and Stanley (2011) emphasized the importance of deprivatizing practice to spark critical and reflective discussions that can improve teaching practices, peer review of classroom teaching was notably absent in the Loon Lake middle school band PLC discussion. This presented a significant deviation in the practices of music teacher PLCs from prior investigations (Kastner, 2014; Sindberg, 2016; Stanley, 2012). Data from this study also indicated that the teachers valued having the ability to dedicate their PLC work to support student-learning goals germane to music learning. Participants shared that they felt hindered when their administration had restricted their PLC work to content goals that were primarily concerned with promoting student learning of content from non-music subject areas.

How do teachers use knowledge and/or supports from their PLC in their own teaching?

The influence of the PLC on the teacher's classrooms was limited. In interviews, the participants identified the common assessments and rubrics developed by the PLC directly impacting their classrooms. The use of these assessments created some common experiences for band students in the two middle schools. Playing assignments that involved the rubrics developed by the PLC were done by students outside of the regular band class time, though the teachers would address which of these individual assignments had upcoming due dates during class. Written assignments and activities that pertained to teaching students how to apply key signatures were discussed during several of PLC meetings I observed. These data indicated that the PLC provided some measures of

accountability, as all group members were sure to follow-through implementing the assessment and curriculum determined by the PLC into their own teaching. The findings of this study support prior scholarship that indicates mutual accountability can help sustain change in the class (DuFour et al., 2008; Sindberg, 2016).

In addition to providing opportunities to develop and refine their curriculum and assessments, the teachers also credited the PLC meetings as opportunities to learn about new instructional technologies and strategies. For example, Carol shared that in PLC meetings she received technical help for using Schoology® to record, submit, and grade student playing assignments. According to Carol, getting support for using Schoology® from colleagues within the PLC was helpful and led to her increased use of Schoology® for viewing and grading student playing assignments. In my observations, the sharing of specific strategies or technologies was an informal process, arising naturally in the course of the conversations in the PLC meetings. These data corroborated findings from Kastner (2014), Sindberg (2016), and Stanley (2012) that PLC conversations allowed teachers to share and learn ideas for their own classrooms that they used in their own teaching. The informal nature of these conversations also supported Conway's (2008) conclusion that informal conversations with other music teachers can lead to meaningful changes in teaching practice.

Participants shared that knowing what their colleagues did in the classroom gave them confidence and validation of their own practices (Gruenhagen, 2007; Kastner, 2014; Sindberg, 2016). All of the participants shared that the opportunity to talk with other music teachers helped them clarify and refine their own thinking and approaches to

teaching. These findings corroborate those of Gruenhagen (2007), who found that some teachers valued the opportunity to learn new perspectives from colleagues as a way to refine their own thinking and teaching practices. Though the participants in this investigation agreed that the PLC meetings had helped create a shared vision for the middle school band program, they also a expressed notion that, "We shouldn't be carbon copies" (Andrew, personal communication, November 16, 2016). There was a common curriculum of concepts and assessments between all three teachers' classes, but there were noticeable differences between the participant's observed classroom teaching. Though the data from this investigation indicated the PLC had contributed to the development of a standard overall curriculum, the evidence demonstrated that the participant teachers retained autonomy in their own teaching strategies and styles in the classroom.

How does participation in a PLC affect the teachers and their classroom practices?

Andrew, Betty, and Carol all reported that their PLC experience was valuable to their teaching. The participants commented that sharing ideas with colleagues and developing a common middle school band curriculum as some of the ways the PLC had helped them improve their own instruction. The PLC meetings served as an opportunity for the teachers to get emotional support from sympathetic and understanding colleagues, which has been documented in previous studies (Bell-Robertson, 20014; Sindberg, 2016). In addition, the PLC was used by the teachers as a common meeting time to address departmental needs, particularly preparing for an upcoming 8th grade instrumental music trip to Chicago. Participants were forthcoming in stating that while the PLC had set

formal student learning goals and worked on developing curriculum and assessments in the past, the current focus of the PLC had shifted. From my observation of the PLC and interviews with participants, it was clear that addressing needs of the band department and teachers was the chief focus of the PLC. There was a clear concern amongst the participants that the PLC at times was more fixated on what the teachers needed to accomplish rather than on the needs of the students.

Though DuFour and Eaker (1998), DuFour et al. (2008), and Newman et al. (1996) argued that PLCs should focus exclusively on student learning, the participants in this study commented that the PLC meeting time sometimes felt like the only time and place they could get together to take care of all the needs of the band department. Additional responsibilities faced by K-12 music teachers compared to their peers have been documented in the literature (Baker, 2007; Bell-Robertson, 2015; Conway, 2003; 2006; Gardner, 2010). The various needs of running a music department may place an additional complication on music teacher PLCs. Participants in this study may have benefitted from having a dedicated meeting time to address the financial and logistical needs of their department. While proponents of the PLC argued that it is the responsibility of PLC members to maintain a clear focus on student learning (DuFour et al., 2008; etc; etc), the pressures faced by music teachers may be different than teachers of core subject areas such as reading or math. As the Loon Lake Public School district did not have content specialists facilitating the music teacher PLC, there was not any oversight to help keep the PLC focused on student learning. Most music teacher PLCs previously investigated were led by a content area specialist (Gruenhagen, 2007; Kastner,

2014; Sindberg, 2016; Stanley, 2012), and those individuals may have helped maintain the group's focus on student learning and teaching practices. It may be that music teacher PLCs could benefit from having a facilitator who is a content specialist who can identify when the PLC is focused on student learning in music and provide knowledgeable guidance to the group. Even thought the PLC was not always focused on student learning, the teachers still found participating in the PLC valuable. Data from this study supports Bell-Robertson's (2014) argument that a PLC doesn't need to be focused on discussions of teaching practices to be of value to participants.

Through their work in the PLC, Andrew, Betty, and Carol developed a common curriculum between the band programs at Loon Lake North and Loon Lake South Middle School. The impacts the PLC had on their classroom practices were evident from the common assessments and rubrics used by all three participant teachers. All of the teachers had similar grading procedures and assignments that were to be completed by students outside of class and submitted through the school's online learning management software. During my observations of each teacher's classroom, it appeared that there were distinct teaching styles within the PLC, such as the teachers' use of technology and inquiry-based learning in instruction. While the teachers informally discussed teaching strategies and repertoire in the PLC meetings, all of the PLC members stated that they did not regularly observe each other's teaching. There was still a degree of privacy between each of the teacher's classrooms, which may have stymied conversations about teaching and prevented teachers from adopting practices from their colleagues (Little, 2003; Stanley, 2011).

Participation in the PLC had some positive impacts on the teachers and their classroom practices. Prior research (DuFour et al., 2008; Garet et al., 2001; Stanley, 2011) indentified several factors that can have positive impacts on professional development that are discussed in the following paragraphs. Some of the best practices identified in prior research that were not evident in the Loon Lake middle school band PLC may have addressed some of the challenges and issues faced by the PLC.

DuFour et al. (2008) identified five key features of effective PLCs: (a) shared mission and values (b) collaborative culture focused on learning (c) collective inquiry into best practice (d) action orientation (e) commitment to continuous improvement (f) results orientation. From this investigation, it was clear that the Loon Lake middle school band PLC has a shared mission, but the collaborative culture was not always focused on student learning. Possibly because of a lack of focus on student learning, the PLC was not always demonstrating collective inquiry into best practices, action orientation, and a focus on results. Though Robinson (2016) questioned the reliance of quantitative data to drive discussions and practices in K-12 music education, the Loon Lake middle school band PLC seldom incorporated data about students, including quantitative and qualitative observations, within the conversations of the PLC. As DuFour and Mattos (2013) and Vescio et al. (2008) warned, the term PLC has become overused and groups that are called PLCs may not reflect the recommended best practices of PLCs as described by DuFour and Eaker (1998) and DuFour et al. (2008). Data from this study suggests the Loon Lake middle school band PLC falls into DuFour and Mottos' category of PLCs in name, but not in practice. Even though the participants' PLC did not exemplify all of the

best practices as suggested by Dufour et al. (2008), the participants still found the experience worthwhile.

Garet et al. (2001) described six factors of effective professional development, which their model divided into three design factors and three "core" factors. According to Garet et al., three design factors: (a) type of professional development activity, (b) length of involvement, and (c) collective participation (alignment of participant teachers' assignments) had an impact on teacher knowledge and classroom practices. Data from this study indicated that the Loon Lake middle school band PLC demonstrated the three design factors that Garet al. (2001) identified as having a positive impact on improving teacher knowledge and classroom practices. The Loon Lake middle school band PLC itself was what Garet et al. termed a "reform" activity, which required more active involvement from participants than activities such as lectures or seminars. Garet et al.'s recommendation for long-term involvement in professional development activities also appeared to have been met by the Loon Lake middle school band PLC. The group met weekly, and while the current membership was in the middle of their second year of working together at the time of this investigation, two of the members had been involved in the PLC since its inception in the 2006-2007 school year. Finally, all members of the PLC in this investigation taught middle school band, and the PLC was focused on issues germane to teaching band in grades 6-8. This feature aligned with Garet et al.'s finding that professional development experiences are more impactful when the experience can focus on teachers' subject area(s).

In addition to the three design factors, Garet et al. also identified three "core" factors of professional development that impacted teachers and their practices: (a) focus on subject area content, (b) action-orientation, and (c) coherence to school and curriculum standards. Of the core factors identified by Garet et al. (2001), the Loon Lake middle school band PLC demonstrated a clear focus on content specific to students learning in band. While the participant PLC of this study had developed several common assessments, rubrics, and a shared curriculum prior to my observations and interviews, at the time of the study, the PLC spent more of their time together discussing issues not as germane to student learning, such as upcoming 8th grade band trip and departmental business matters such as budgeting and fundraising. This suggested that the group did not have a consistent action-orientation as recommended by Garet et al. Data from this investigation also revealed some incoherence between the formal learning goals of the PLC, learning goals of the school administration, and learning goals the teachers had for their overall band program in previous years. When the teachers were given the opportunity to set their own PLC goals without having to concern themselves with connecting their content to math or reading learning goals, they found their work to be more rewarding. This finding is in line with the conclusions of Garet et al. that professional development is more meaningful to teachers when it connects to their curriculum and content standards.

Stanley (2011) identified six considerations that contribute to music teacher learning in PLCs: (a) long-term commitment to improvement; (b) the tension between goals of content-area knowledge and pedagogical skills; (c) fluidity of teachers'

participatory roles; (d) honest and systemic examination of teaching practices; (e) teaching assignments represented within the group; and (f) support for implementing new ideas in the classroom. From this investigation, the Loon Lake middle school band PLC demonstrated a commitment to the PLC, a fluidity of teacher roles with the PLC, a shared focused on improving student learning in middle school band classes, and support from their administration and within the PLC to implement changes in the classroom. Data from this investigation did not suggest a tension between participants wanting to develop content knowledge against those wanting to address pedagogical skills in the PLC. Rather, the primary content tension in the PLC was between pedagogical and student learning content and taking care of departmental business during the PLC. While Stanley (2011) argued that honest and open examination of teaching practices were an integral part of meaningful teacher collaborations, the Loon Lake middle school band PLC did not conduct these types of activities. Though the participants expressed a desire to observe fellow music teachers, they cited administrative impediments such as a lack of substitute teachers available to cover classes to facilitate peer observations. Though at the time of the study participants were lobbying their administrators to allow them leave to conduct peer observations, it was interesting that the group did not simply videorecord their own teaching.

Implications for K-12 Music Educators

While Stanley (2011) argued that PLCs of music teachers specialized within a single area and grade level and those inclusive of multiple areas and grades could both be beneficial, this investigation revealed some challenges in both models of PLCs. The

participants had experienced difficulties in collaborating across choral, band, and orchestral areas since content did not always translate between each type of ensemble. Negotiating these differences proved challenging to the teachers, and over time they had self-selected to form more specialized PLCs. Though teachers thought this development allowed each PLC to better address the needs of students within the choral, band, and orchestral programs, there was also a concern that the group then became balkanized from other PLCs. A lack of communication between band teacher PLCs at the elementary, middle, and high school levels was a significant worry of the participants. Another concern of the middle school band PLC teachers was that the group had stagnated in part due to this balkanization and a lack of new ideas within the group. Evidence from this investigation suggests it may be beneficial for music teacher PLCs in the field to make efforts to maintain open communications with other music teacher PLCs within their districts and take efforts to bring in new perspectives.

The use of Skype to conduct PLC meetings by the participants in this study may serve as a model for teachers in the field who encounter similar challenges. The two middle schools in the Loon Lakes district were too far apart for the teachers to regularly commute between buildings within the constraints of their teaching schedules to hold their PLC meetings. For music teachers wanting to form their own PLC who face similar difficulties of isolation between buildings may find Skype or similar videoconferencing tools useful to surmount these challenges. Data from this investigation also suggests that participants videoconferencing into meetings can be as effective as in-person meetings. Such tools could also be used by music teachers to form PLCs with music teacher

colleagues in other school districts, which may be particularly helpful for individuals who are the only music teacher in their entire school district.

Though DuFour et al. (2008), Newmann et al. (1996), Stanley (2011), and Vescio et al. (2009) recommended teachers deprivatize their practice, peer observance and critiquing of teaching were not a regular part of the Loon Lake middle school band PLC meetings. Despite the teachers' desires to observe and be observed by their colleagues, the participants' teaching schedules did not easily allow for peer observation and they did not use videorecordings in lieu of in-person observations. Finding ways to observe each other's teaching, whether from in-person classroom observations to watching videorecordings of colleagues' classrooms, may be beneficial for music teachers working in PLCs. With the abundance of recording technologies available, it should not be difficult for music teachers to adopt these practices. Such undertakings could provide a means to keep the PLC's focus on student learning. They could also help prevent conversations about effective music teaching from stagnating as teachers could continue to critically reflect on their own practices.

Finally, the autonomous middle school band PLC was a rewarding experience for all of the participants, but the teachers commented that maintaining focus on student learning was a challenge. Though the teachers clearly expressed reservations about having a strict authoritarian figure facilitate the group, they did indicate their beliefs that having someone with a music teaching background occasionally meet with the group could address some of their concerns about stagnation and lack of focus. They also thought such an individual could also help the group by injecting new ideas into the

conversations to keep the PLC from stagnating. Previous investigations into music teacher PLCs by Gruenhagen (2007), Kastner (2014), Sindberg (2016), and Stanley (2012) involved an outside music specialist facilitating the PLC, which may have helped maintain a focusing on student music learning. For K-12 music teachers in the field, it may be beneficial to bring in an individual such as a music supervisor, a local collegiate faculty member, or other experienced music educator to provide guidance and accountability as needed.

Implications for Future Research

Data from this investigation raised additional questions that may provide the impetus for future research efforts. One potential avenue for future research is to examine PLCs of music teachers who have different teaching assignments. The three participants in this study all taught middle school band in a suburban school district. In interviews, participants commented on difficulties of experiences in the PLC in prior years when PLC membership included teachers of choral, band, orchestra, and general music. Though the participants in this study commented on the difficulty in finding commonalities in the learning needs of students in different ensembles and music classes, these experiences may or may not be the norm for mixed ensemble or classroom music PLCs. The solution to this problem encountered by the participants was to create a single PLC of only middle school band teachers, but that may not be a feasible option for teachers in other settings. For example, some music teachers who teach in multiple areas (e.g. band and vocal, or orchestra and general music) may not benefit having multiple specialized music teacher PLCs within a school or district. They may be forced to

arbitrarily choose to belong to one PLC or to alternate between groups, which may not be in the best interests of their own professional development. Music teachers working in smaller schools or district may not even have the option to specialize the focus of their PLC due to their own diverse workloads and limited number of colleagues to even form a music teacher PLC. Previous research has documented positive experiences of music teachers working in PLCs within a single area and grade level (Bell-Robertson, 2014; Gruenhagen, 2007; Kastner, 2014; Stanley, 2012), and a lone study by Sindberg (2016) found music teachers had positive experience in a PLC of music teachers from different grade levels and teaching area. Future research efforts might further investigate these types of music teacher PLCs to identify specific challenges and provide suggestions to improve teacher collaborative experiences.

Another challenge experienced by the Loon Lake middle school band PLC was the balkanization of the PLC. Throughout the investigation the teachers voiced several concerns about a perceived disconnect in communication between the elementary, middle level, and high school music teacher PLCs. They expressed concerns that students in the band programs in Loon Lake Public Schools would be better served if band teachers across all grade levels worked to align their programs vertically. Their concerns were reflective of Stanley's (2011) comment that vertically aligned teacher group conversations could "provide an honest examination of student learning that might help bridge gaps between grade-level curricula" (p. 76). To address concerns with misalignment between elementary, middle school, and high school programs, participants in the current study expressed interest in combining into a district-wide 5-12 band PLC.

Though Stanley (2011) argued that music teacher collaborations including teachers of different subject areas (such as general, instrumental, and vocal music) and grade levels could be beneficial for teachers, there is little research into the experience of music teachers in PLCs of mixed grades and teaching areas. Of the previous investigations into music teacher PLCs, only Sindberg (2016) examined a PLC that included both vocal and instrumental music teachers of different grade levels. Researchers who have examined professional development effectiveness in general K-12 education such as Desimone et al. (2002) and Garet et al. (2001) found that the uniformity of participant teachers' teaching assignments alone can impact the effectiveness of professional development experiences on teacher knowledge, classroom practices, or student learning. Since Desimone et al. (2002) and Garet et al. (2001) used samples of only math and science teachers, their findings may not be generalizable to teachers in different content areas. An area for future research would be to examine how a PLC of music teachers of different grade levels can impact teachers and their practices. Such an investigation might also examine how teachers negotiate the various expectations for students at different developmental stages and as students move from one grade level to the next.

An interesting feature of the PLC investigated in this study was that one member routinely used Skype to join the regular PLC meetings. Participants in the present study were still able to discuss matters just as easily via videoconferencing as when they met in person. Similar videoconferencing tools could provide a means for music teachers who are the only music specialist in their building the ability to form a PLC without having to overcome challenges like traveling and scheduling. Since Bell-Robertson (2014) found

that online discussion forums could be a useful resource for music teachers, a music teacher PLC meeting exclusively through videoconferencing could also be beneficial to teachers. Further research could identify challenges and successes of implementing PLCs of music teachers from multiple schools through videoconferencing. Such an investigation could provide support to rural music teachers for convincing school administrators to allow professional development collaborations of music teachers between school districts.

Another aspect for future research in music education is to examine the impacts of teacher collaboration on student performance. Previous studies (Gruenhagen, 2008; Kastner, 2014; Sindberg, 2016; Stanley, 2014) have examined how participation in collaborative groups impacted music teachers' knowledge and perceptions. In this investigation, the teachers shared their common assessments they used to collect data on student performance and shape the curriculum. While the common assessments and rubrics provided some measure of how a music teacher PLC can impact music educators' classrooms and teaching, they did not provide a means to assess the impact of the PLC on student learning. More research is needed to identify and document how a PLC of music teachers can impact student learning in music and may provide support for music teachers advocating to create their own PLC.

Finally, the examination of an autonomous music teacher PLC was one of the primary goals of this investigation. While previous research in music education has examined music teacher PLCs led by a researcher doubling as facilitator (Gruenhagen, 2007; Kastner, 2014; Sindberg, 2016; Stanley, 2012), this investigation focused on a PLC

that had no external leadership. A significant concerned raised in this investigation was the schism between what the participants thought the PLC should do and their actual practices. The autonomous middle school band PLC spent a significant amount of their time discussing departmental matters such as travel, budgeting, and concert logistics that did not seem to directly relate to music teaching and learning. Though DuFour et al. (2008) argued that PLCs need to maintain a focus on student learning and using data to inform instructional practices, in practice the Loon Lake middle school PLC focus had shifted to address needs of the department instead. This raised significant questions about the autonomous PLCs usefulness as a form of professional development. What would help the middle school band PLC maintain a focus on student learning? Was it simply a matter of needing additional guidance? Did it need an injection of new ideas to improve practice? Or were the teachers simply overworked, overscheduled, and just trying to keep their department and programs running? Further studies into autonomous music teacher PLCs could provide additional cases that may indicate whether such issues were unique to this PLC, or are more commonplace. Such investigations may also provide ideas to improve practices within autonomous music teacher PLCs across various settings.

Conclusions

This investigation found that an autonomous PLC can have a positive impact on teachers and their classroom practices. The opportunity to share ideas, frustrations, and successes with colleagues was viewed by the participants as an invaluable experience. Though the teachers saw the PLC experience as beneficial, this investigation raised some

concerns with the autonomous PLC model. One challenge encountered by the teachers was maintaining a focus on student learning with several competing concerns of the department, such as group travel, business items, and the logistical concerns of overseeing an instrumental music department. Another concern presented by this investigation was that PLC participants did not fully deprivatize their practices since they did not observe each other's teaching, though research suggests this is an important practice for improving teaching. Finally, participants felt constricted at times by their administration's requirements to focus on relating their PLC work to English and math content rather than student learning in music. The teachers believed these demands impeded their PLC by diverting attention from students' learning of musical content to figuring out how to show the administrators how music content reinforced students' knowledge in English or math.

While the experience of working in an autonomous PLC was overall a rewarding experience for the Loon Lakes middle school band teachers, some additional supports may have assisted the PLC more effectively work towards improving student learning in music. These could include school administrations providing music teachers time to observe their colleagues in the classroom, allowing music teacher PLCs to focus on student learning of music instead of other subject areas, and even bringing in a music specialist to help facilitate the PLC. Additional study into music teacher PLCs may further develop ideas on how to make these professional development experiences more effective in improving teacher knowledge and classroom practices.

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APPENDIX A

A Case Study of Professional Learning Communities in K-12 Music Education

Data Planning Matrix

Central Question: How do autonomous PLCs affect music teachers and their class practices?

What Do I Want to Know? (subquestions)	Why I Want to Know This?	What kind of data will answer this question?	Projected Timeline:
How do music teachers describe their PLC experiences?	To understand the autonomous PLC process from the teacher's view.	Participant interviews with teachers.	October 2016: Send out initial survey to identify potential participants.
What knowledge and/or supports do music teachers gain from participating in PLCs?	To understand what learning, mentoring, and/or support is provided by PLC experiences.	Participant interviews with teachers. Observations of PLC meetings. Artifacts of teacher resources and lesson plans.	November 2016: Select and Contact participants for case study. December 2016: Begin interviews with participants, begin PLC observations. Begin within-case analysis.
What kinds of organizational support and leadership are in place, and how do they relate to teachers and their class practices?	To understand how PLCs can be created, sustained, and improved to support music teachers.	Participant interviews with teachers. Observations of PLC meetings.	January & February 2017: Continue data collection and observations. March 2017: Analysis & Write Up.
How do teachers use knowledge and/or supports from PLCs in their classroom?	To discover how PLCs can affect teaching.	Participant interviews with teachers. Observations of participants' teaching. Artifacts of teacher lesson plans, curriculum.	April 2017: Final Document End of May: Dissertation Defense.

APPENDIX B

Research Codebook

AD:CurricVsNew	Statements concerning school administration support for innovation while maintaining curricular standards
AD:HandsOff	Statements about school administration
AD:PLCsFlex&StuCenter	Statements concerning school administration's encouragement of PLCs to include other student-centered conversations into PLC meetings
AD:PolicingVsSupport	Statements concerning participants views that there is a needed balance between policing and supporting PLCs
AD:StrictGoalsVsGermane	Statements/field notes concerning school administration's requirements on PLC goals
AiringOfGreviences	Statements/field notes of members sharing frustrations during PLC
Assessments	Statements/field notes about the use of assessment in a participant teacher's classroom
ATT:PLCsGood	Statements/field notes about participants' attitudes towards the PLC
ATT:Repertoire	Statements/field notes about participants' attitudes towards repertoire selection
AutoVsConform	Statements concerning administration's and teacher's desire to provide a "common district experience" while maintaining the individuality of each classroom teacher
BandVsOthers	Statements/field notes about the concern of band enrollment compared to other classes and activities
BigFire1st	Statements/field notes about the PLC conversations centering around the most pressing issue of the department, whatever it may be.
ButtingHeads	Statements/field notes about disagreements between PLC members
Changesw/NewPeople	Statements concerning how the PLC dynamic changes depending on membership
Chicago	Statements/field notes about the annual 8th grade trip to Chicago, or any planning of said trip.
Collegiality	Statements/field notes concerning participants' positive relationships within the PLC
CommonAssessments	Statements/field notes about common assessments in middle level band across district
ConcertPrep	Statements/field notes about PLC time used to plan and organize for upcoming concerts
ConcertReview	Statements/field notes about PLC time used to debrief from recent concerts

Consistency	Statements about how the PLC has led to consistency of instruction and assessment within and across classes
ContToHS	Statements/field notes concerning participants' concern about students being ready to continue band at the high school level
Curric	Statements/field notes about the current curriculum in the 6-8 band program at either middle school.
Department$	Statements/field notes concerning the financials of the band programs
DiffSchoolSituations	Statements/field notes concerning program and administration differences between the two sites
DomPerson	Statements/field notes concerning individual(s) who exert more control over PLC conversations and actions
Fluidity	Statements/field notes concerning how the PLC conversations meander between topics
Frustration	Statements/field notes concerning member frustrations with PLC
GettingLax	Statements/field notes concerning how past PLC assessments and goals fall out of use over time
HardtoIDPLCBenefits	Statements concerning difficulty for participants to identify knowledge specifically gained from PLC
InformalDiscussions	Statements/field notes concerning the informal nature of discussion in PLC meetings
iPads	Statements/field notes concerning schools 1:1 student iPads
LiftingCurtain	Statements about seeing into other teacher's classes and practices
Meetings	Statements/field notes concerning additional meetings to PLC, including department and team meetings
MoreWorkNow=LessLater	Statements concerning how the PLC activities are more work, but can save time in the longer run
NoVerticalCommunication	Statements/field notes concerning the lack of communication between elementary, middle level, and high school music PLCs
OddOneOut	Statements/field notes concerning individuals being left out of PLC conversations
OKtoDisagree	Statements/field notes concerning participants' constructive arguments
PathofLeastResist	Statements/field notes concerning the tendency to go towards what is easiest
PeerMusObs	Statements about current and past abilities to observe/be observed by other music teachers
PLC:Align	Statements/field notes about aligning band curriculum in the district through the PLC

PLC:Autonomy	Statements/field notes concerning the autonomy and decision making held by the middle school band PLC
PLC:Data	Statements/field notes about using PLC to examine data from student assessments
PLC:DevelopAssess	Statements/field notes about using PLC time to develop common assessments
PLC:Evolve	Statements/field concerning how the PLC has and continues to change and adapt
PLC:Goals	Statements/field notes concerning the SMART goals set by the PLC
PLC:Membership	Statements/field notes concerning current and past membership by the PLC
PLC:Planning	Statements/field notes about using PLC time to plan band curriculum
PLC:Relevant	Statements/field concerning how the PLC work is relevant to the participant's teaching.
PLC:Reuse	Statements/field notes concerning assessments developed by the PLC that are still used by participants
PLC:Settled	Statements/field notes concerning the PLC as settled or stagnated
PLC:StudNeeds	Statements/field notes concerning discussion of student needs within the PLC
PLC:TechnologyHelp	Statements/field notes about technology support given within the PLC
PLCvsNonPLC	Statements/field notes concerning the inclusion on non-PLC related topics into PLC meetings.
ProgLimits	Statements/field notes concerning perceived shortcomings in the band programs of the two middle schools
QComp	Statements/field notes concerning Q Comp
Schoology	Statements/field notes concerning use of Schoology (software for student assessment)
Skype	Statements/field notes concerning use of Skype for the PLC
StagnationVsFreshIdeas	Statements/field notes concerning a need to balance continuity in the PLC with new ideas
Support-OnlineResources	Statements/field notes concerning online resources provided by district to help guide/support the PLC
Support-Refreshers	Statements/field notes concerning district beginning of year meeting and other workshops to help guide/support PLCs
TheoryToPractice	Statements/field notes about how PLC and classroom practices are based in research.
TICs	Statements/field notes about Teacher Instructional

	Coaches and their role in the PLC (TICs)
TICs:There/NotUsed	Statements/field notes concerning the middle school band PLC's minimal involvement with TICs
VAL:LLM	Statements/field notes concerning participants' value of life long music making
VAL:PedDiscuss	Statements/field notes concerning participants' value of discussing an learning about pedagogy
VAL:StuLoveMus	Statements/field notes concerning participants' value students' love for music
Wish:PeerMusOb	Statements/field notes concerning participant's wish to be able to observe/be observed by other music teachers
Wish:VerticalMeeting	Statements/field notes concerning participant's wish to be able meet as a K-12 band program

APPENDIX C

IRB Approval Letter

UNIVERSITY OF MINNESOTA

Twin Cities Campus

Human Research Protection Program
Office of the Vice President for Research

D528 Mayo Memorial Building
420 Delaware Street S.E.
MMC 820
Minneapolis, MN 55455

Phone: 612-626-5654
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November 2, 2016

Dave Sanderson
School of Music
FergH Room 100
2106 4th St S
Minneapolis, MN 55455

RE: "A Case Study of Professional Learning Communities in K-12 Music Education"

IRB Code Number: 1610P96621

Dear Mr. Sanderson:

The Institutional Review Board (IRB) received your response to its stipulations. Since this information satisfies the federal criteria for approval at 45CFR46.111 and the requirements set by the IRB, final approval for the project is noted in our files. Upon receipt of this letter, you may begin your research.

IRB approval of this study includes the participant consent form received October 6, 2016 and the parent information sheet received October 26, 2016.

Please be sure to submit school approval once received.

The IRB would like to stress that subjects who go through the consent process are considered enrolled participants and are counted toward the total number of subjects, even if they have no further participation in the study. Please keep this in mind when calculating the number of subjects you request. This study is currently approved for 10 subjects. If you desire an increase in the number of approved subjects, you will need to make a formal request to the IRB.

On October 25, 2016, the IRB approved the referenced study through October 24, 2017, inclusive.

The Assurance of Compliance number is FWA00000312 (Fairview Health Systems Research FWA00000325, Gillette Children's Specialty Healthcare FWA00004003). Research projects are subject to continuing review and renewal. You will receive a report form two months before the expiration date. If you would like us to send certification of approval to a funding agency, please tell us the name and address of your contact person at the agency.

As Principal Investigator of this project, you are required by federal regulations to inform the IRB of any proposed changes in your research that will affect human subjects. Changes should

not be initiated until written IRB approval is received. Unanticipated problems or serious unexpected adverse events should be reported to the IRB as they occur. Notify the IRB when you intend to close this study by submitting the Study Inactivation Request Form.

The IRB wishes you success with this research. If you have questions, please call the IRB office at 612-626-5654.

Sincerely,

Jeffery Perkey, CIP, MLS
IRB Analyst

CC: Laura Sindberg

APPENDIX D

Potential Participant Identification Survey Cover Letter (Email)

Dear music educator,

You are invited to be in a research study of the impacts of professional learning communities on K-12 music educators. You were selected as a possible participant because you have been identified as a K-12 music teacher working in a public school district in Minnesota. This is an invitation to take an initial survey to screen potential participants for a later study on the effects of participation of school-based professional learning communities on music educators. I ask that you read this letter and ask any questions you may have before agreeing to take the survey.

This study is being conducted by David N. Sanderson of The University of Minnesota School of Music.

Procedures
If you agree to complete this initial participant identification survey, I would ask you to do the following things:

This initial participant identification survey consists of taking a short online questionnaire, which will take only 5 minutes to complete. You will be asked if you participate in a professional learning community at your school. If you do, you will be asked a couple of demographic questions about your PLC you're your school. The survey will also ask if you would be interested in being contacted about participating in a research study of how school-based PLCs impact K-12 music teachers.

This later study will take place over the winter of 2016-2017, and will be for my dissertation. Involvement will include at least one interview and follow-up, with you and at least two other members of your PLC, and at least three observations of your regular PLC meetings.

If you are selected to participate in the study, the researcher will contact you with additional information about the study, its procedures, and the process of consent.

To participate, please click on the link below: [Link to Qualtrics survey]

Confidentiality
There are no known risks involved in participating in this survey, Professional Learning Communities in K-12 Music Education (IRB[#pending]). Your responses to the survey will be recorded anonymously unless you provide your contact information to participate in the later study. When the data are reported they will only be reported only aggregate data with no identifiable information included.

Voluntary Nature of the Study
Participation in this study is voluntary. Your decision whether or not to participate will not affect your current or future relations with the University of Minnesota. If you decide to participate, you are free not to answer any question or to withdraw at any time without affecting those relationships.

Contacts & Questions

The investigator conducting this study is David N. Sanderson. If you have any questions at any time, you are encouraged to contact him at the School of Music, University of Minnesota by phone (402.802.2858) or by email (sande340@umn.edu). If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, you are encouraged to contact the university advisor: Dr. Laura Sindberg, School of Music, University of Minnesota (lsindber@umn.edu). If you prefer to talk to someone not directly involved in the study, you are encouraged to contact the Research Subjects' Advocate Line, D528 Mayo, 420 Delaware St. Southeast, Minneapolis, Minnesota 55455; (612) 625-1650.

Thank you for your time and attention.

Sincerely,

David Sanderson
Graduate Instructor
University of Minnesota, Twin Cities

APPENDIX E

Case Study Participant Cover Letter (Email)

Dear [name],

My name is David Sanderson, and I'm a doctoral student at the University of Minnesota School of Music. Earlier this year you indicated that you would be interested in participating in a study about how professional learning communities affect music teachers. The study is for my dissertation, and will take place over the winter of 2016-2017. This is an invitation to be a part of that investigation.

Involvement in this study will include an initial interview and at least one follow-up interview lasting around 45 minutes each. A transcript of these interviews will be sent to you to check for accuracy. In addition, I would like to take observation notes of your PLC meetings. I would ask that you consult with your PLC if this is something that would amenable to all parties involved.

Participation in this study is strictly voluntary, and you or anyone else involved may withdraw from the study at any time. All information will be kept confidential and pseudonyms will be used in any published report resulting from this investigation. There is minimal risk for participating in this study, and your participation help inform and identify professional development practices that are beneficial to fellow music educators.

I have attached a copy of the consent form, which includes information about the research procedures, confidentially, the risks and benefits of participation, and contact information if you have further questions about the study.

If you agree to participate, please reply to this email and I will contact you to schedule an initial interview. Thank you for considering participation in this study.

Sincerely,

David Sanderson
Graduate Instructor
University of Minnesota, Twin Cities

APPENDIX F

Participant Consent Form

You are invited to be in a research study of professional learning communities in K-12 music education. You were selected as a possible participant because you have been identified as a K-12 public school music teacher. I ask that you read this form and ask any questions you may have before agreeing to be in the study.

This study is being conducted by:
David N. Sanderson, graduate instructor, University of Minnesota, Twin Cities.

Background Information

The purpose of this study is to examine how school-based professional learning communities impact K-12 music teachers and their teaching practices.

Procedures:

If you agree to participate in this study, I would ask you to do the following things:

- Each individual participant will be asked to do one initial interview and at least one follow-up interview. Interviews may be audio recorded, though participants can opt to not have the interview audio recorded at any time. Interviews will last approximately 45 min.
- If it is permissible by the other members of your PLC, the researcher will observe at least three meetings of your PLC. For these observations the researcher will only take field notes of these meetings.
- If you choose and permitted by your school administration, the researcher will conduct an observation of your teaching of a class related to the work conducted in your PLC.
- For all interviews and observations, the researcher will provide you with a copy of the transcription and/or notes to check for accuracy and clarify if needed.

Risks and Benefits of being in the Study

Participation in this study has minimal risk. Your participation is strictly voluntary, and you may decline to answer any interview question or participate in any observation at any time. All interview and observation data will be kept confidential.

Your participation in this study will add to the knowledge about learning communities and professional development for K-12 music educators. This research may help inform and improve professional development practices for music educators, and identify issues in current professional development practices experienced by practicing music teachers.

Confidentiality:

The records of this study will be kept private. In any sort of report I might publish, I will not include any information that will make it possible to identify a subject. Research records will be stored securely and only researchers will have access to the records. Study data will be encrypted according to current University policy for protection of confidentiality.

Voluntary Nature of the Study:

Participation in this study is voluntary. Your decision whether or not to participate will not affect your current or future relations with the University of Minnesota. If you decide to participate, you are free to not answer any question or withdraw at any time without affecting those relationships.

Contacts and Questions:

The investigator conducting this study is David N. Sanderson. If you have any questions at any time, you are encouraged to contact him at the School of Music, University of Minnesota by phone (402.802.2858) or by email (sande340@umn.edu). If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, you are encouraged to contact the university advisor: Dr. Laura Sindberg, School of Music, University of Minnesota (lsindber@umn.edu). If you prefer to talk to someone not directly involved in the study, you are encouraged to contact the Research Subjects' Advocate Line, D528 Mayo, 420 Delaware St. Southeast, Minneapolis, Minnesota 55455; (612) 625-1650.

You will be given a copy of this information to keep for your records.

Statement of Consent:

I have read the above information. I have asked questions and have received answers. I consent to participate in the study.

Signature:_____ Date: _____

Signature of Investigator:_____ Date: _____

APPENDIX G

Music Teacher Initial Interview Protocol

Thank you for participating in this study. The interview will take no more than 45 minutes. The purpose of this study is to investigate how music teachers' experiences with school-based autonomous professional learning communities (PLCs).

The guiding question for this study is:

How does involvement in existing autonomous PLCs affect K-12 music teachers and their classroom practices?

Subquestions:

1. What knowledge and/or supports do teachers gain from their PLC experiences?
2. What organizational supports and leadership are in place for these PLCs and how do they relate to teacher and classroom outcomes?
3. How do teachers use knowledge and/or supports from their PLC in their own teaching?

INTERVIEW QUESTIONS

In order to answer the guiding question and subquestions above, I will ask the following specific questions of participating music teachers.

1. Background questions

   Please share your own background as a music teacher. (Training, years of experience)

   How many years have you worked as a music teacher?
   At this school?

   Please tell me about this school. (history, district, student demographics)

2. PLC experiences

   Could you describe who is in your PLC?

   How frequently does your PLC meet?

   Tell me about what your PLC does.

   How would you describe a typical PLC meeting?

3. Knowledge and Supports from PLCs

   What aspects of your PLC do you find useful?

   Is there anything you've gained from participating in your PLC?

   Can you share anything you've learned from working with your PLC?

4. Organization and administrative support for PLCs

   Who leads your PLC?

   What kind of support does you PLC receive from school administration?

   Do you feel that your PLC is given the support it needs?

5. Relating PLCs to the Classroom

   Tell me about how your PLC relates to you classroom teaching.

Is there anything else you would like to share about your school PLC?